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ACNE URTICATA AND OTHER FORMS OF "NEUROTIC EXCORIATIONS."

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The following is an attempt to classify certain skin-affections which present as a prominent feature excoriations or erosions produced by rubbing, scratching, or tearing by the fingers or nails of the patient.

The term "neurotic excoriations" was first used by Erasmus Wilson, who grouped together under this name a series of cases in which, he said, the lesions had often been mistaken for artificially-produced eruptions, but which he did not believe to have that origin.

A perusal of his careful descriptions of these cases shows, however, that he actually included under this term two distinct classes: One, in which there were large oval erosions, such as we now recognise as deliberately produced by rubbing with the finger in hysterical women and girls; the other, in which occurred, associated with papules which were the site of intolerable itching, smaller, rounded, or oval excoriations due to involuntary or uncontrollable scratching.

At the present time we may distinguish these two groups by the names: (1) Neurotic excoriations of hysterical women or malingerers, or Dermatitis ficta (one type).

(2) Acne urticata of Kaposi, or "dug-out" excoriations of Colcott Fox.

And to these two types we may add (3) a third, not mentioned by

Wilson, but described by Brocq under the title, "Acne excoriée des jeunes filles."

None of these affections, except, perhaps, Acne urticata, possesses any particular interest from a pathological point of view, but they are each of considerable clinical, one may say psychological, interest. To the dermatologist they present themselves as excoriations, produced by the patient intentionally or involuntarily, of which it is necessary to discover the motive in order to treat the case appropriately.

In all cases the erosion or excoriation has several similar phases; first, there is a raw, oozing surface due to separation of the upper layers of the epidermis; this is followed by a crust; the crust falls and leaves a purplish patch, which finally becomes a whitish scar with a deeply pigmented margin. In each of the three forms the erosions are produced by similar mechanical means, but the motive in each is different.

I.—"Neurotic Excoriations" of Wilson (one type). Dermatitis Ficta or Feigned Eruption of Colcott Fox.

Dermatologists in this country are familiar with an affection of the skin which occurs in hysterical women and occasionally in males, and which is characterised by elongated oval or band-like excoriations from an inch to several inches in length and about a finger's breadth wide. These excoriations are seen upon the face or limbs or trunk, and it is noticeable that they lie in a direction which would be most convenient for rubbing, as, across the chest, along a limb, diagonally on the shoulder, and horizontally or vertically on the forehead.

They belong to the group of feigned eruptions or Dermatitis ficta (Colcott Fox), but in this case they are produced not by the application of acids or other irritants, but by friction with the finger. In hysterical patients the motive is probably to excite sympathy, but similar lesions may be seen in male malingerers, and also as a product of mere naughtiness or imitation in children.

Continental authorities have generally regarded these lesions in hysterical girls as true neuroses, and the term Pemphigus hystericus or that of Dermatitis gangrænosa has been used to connote them. In this country the true nature of the chemically or mechanically

produced lesions was pointed out by Startin so long ago as 1871. A few years later the band form was described by Erasmus Wilson in his "Lectures on Dermatology," delivered before the Royal College of Surgeons. Wilson did not believe that they were produced artificially or intentionally, but, as already stated, he confused these eruptions of hysterical girls with those of the smaller type associated with pruritus, since described as Acne urticata.

Of Wilson's five cases, Nos. 2 and 3 were undoubtedly fictitious eruptions in hysterical girls. Sangster, Liveing, and Colcott Fox in 1881, and subsequent years, published further examples of these large elongated excoriations and definitely proved that they were artificially produced. During recent years, several cases have been shown at meetings of the Dermatological Section, and a good many more have been published in various journals, and they are now so well known that they need not be further discussed here.

II.—Acne Urticata of Kaposi; "Neurotic Excoriations" of Wilson (one type); "Dug-out" Excoriations of Colcott Fox.

The subjects of this class of "Neurotic excoriations" are neither hysterical persons nor malingerers. They are generally neurotic, but there is no direct motive to deceive. Examples of this type have been given by Wilson and by Colcott Fox; and the affection afterwards described by Kaposi and other German writers as "Acne urticata" and "Urticaria necrotisans" seems undoubtedly to belong to the same group.

Wilson's Cases.

Since Wilson's general description of neurotic excoriations includes the hysterical form it will be better, instead of repeating it, to quote in full one of his cases as an example of the type with which we are concerned:

Case 1.—The patient was a married lady, aged 47 years. The face was spotted over with small abrasions. The excoriations were oval or polyhedral and about one quarter of an inch in diameter. There were from fifteen to twenty spots of this kind scattered over the forehead and face, but three only were perfectly fresh. The patient's attention was first directed to their existence by a sensation of fullness, burning, and tingling, and this sensation continued for some hours, until she was driven to seek relief from the irritation by rubbing or scratching. The effect of a very slight rub was to detach the cuticle, which seemed to slide off

the spot, and thus bring into view the excoriated patch. Later the patch became a black scab, and finally a red-brown pigmented stain. The eruption was of two years' duration.

Wilson's Case 2 was a nervous, excitable, mentally depressed man, aged 40 years, and there were papules and excoriations on the shoulders, arms, nates, thighs, and calves, with severe pruritus as a prominent symptom. Case 5 was a married woman, aged 28 years, who had been tormented with the eruption for four years upon shoulders, hips, nates, thighs, and scalp.

Wilson's cases were recorded in his lectures in 1874–5.

In 1887, Sangster showed, at a meeting of the Dermatological Society of London, a man with chronic urticaria of twelve years' standing, who presented rounded excoriations about the size of the little finger-nail.

Colcott Fox's Cases.

In the *Westminster Hospital Reports*, vol. iv, 1888, Colcott Fox described two cases in adults of what he then believed to be Lichen urticatus continued into adult life as an urticaria:

(1) "Mary S—, aged 25 years, a fairly healthy-looking woman. She came with some distinct urticaria wheals present, white and red, and feeling firm to the touch—many were better felt than seen—on the face and arms and behind one ear. Most of the eruption, however, consisted of deep excoriations the size of a split-pea, and crusts, due to the fierce scratching tearing the top of the wheal off to relieve the intense itching. The unwary may easily be put off the scent by these appearances, especially if no wheals are to be seen at the time of examination. She stated that she had been affected ever since five months old, and that she had never lost the eruption, though it was better in the cold weather. The eruption used to be on the body, but had become localised in the fore-arms, backs of the hands, the legs, and the face. I am afraid I was not more successful than others in curing her, and she soon disappeared."

Another case (2) was shown by Dr. Fox at a meeting of the Dermatological Society on April 10th, 1907, of which the exhibitor remarked that it "was not to be confounded with the larger patterned 'neurotic excoriations' of Erasmus Wilson. He thought it to be an urticaria." Several members inclined to the view that it was a Prurigo mitis.

(3) Another in a girl, aged 22 years, was shown on December 28th, 1907. She had had pruritus as long as she could remember. The whole skin, except the palms and soles and scalp, was covered with irregularly-shaped scars, varying in diameter from a quarter to half an inch, like vaccination scars. There were also several deep excoriations, which, she said, she dug out in the night when the itching was at its worse. She was not hysterical, and volunteered the statement that the marks were self-inflicted.

The following manuscript notes of yet another case were given to me by Dr. Fox:

(4) Consulted me (T. C. F.), April 6th, 1883. Miss D—, aged 44 years, presented discrete excoriations, the size of a split pea to a finger-nail, disseminated sparsely all over the right forearm and hand and fingers, but more numerously on the extensor aspect of the feet; there were a few about the left wrist and back of the hand, and three or four on the palm. The lesions have previously appeared on the feet, legs, and thighs, and about the shoulders. The eruption has extended since October, 1884.

The patient describes the elementary lesions as white lumps like the result of a nettle-sting, accompanied by *intense* itching, so that every one is at once dug out by the nail; an excoriation is left, corresponding in size to the initial lesion, in shape round or oval or rather lunar, and covered with a slight crusting tinged with blood. On healing a deepish stain is left and often faint scars.

She says she was never strong, and was formerly a governess, leading a hard life. She is highly nervous, and has a restlessness of the muscles almost choreiform; and of energetic habits, doing a lot of work with a great determination and feeling much exhaustion afterwards. She has frequently violent palpitation on exertion or excitement. She is a bad sleeper. The eruption evolves in the evening when she is tired, also when she gets heated, and especially on Mondays after Sunday work. She has grown stouter in the last few years. Her organs appear to be healthy, and there is no exophthalmic goitre.

The Writer's Cases.

The following cases, which appear to belong to the same group, have from time to time come under my own observation:

(1) D. P—, aged 16 years, a domestic servant, had given a history of an itchy eruption on the face, trunk, and limbs, on and off for six months. The lesions consisted of split-pea-sized excoriations, in groups of two to five, on the forehead, chin, chest, back, and limbs. Many of the excoriations were rounded, but some were oval in shape, and their appearance strongly suggested that they had been produced by tearing with the nail; in fact, many were rather deep and looked as though the skin had been dug out with the nail. The patient did not deny that she scratched the spots, but said that there first of all appeared a very itchy papule which she was compelled to tear at with her nail. While waiting in the out-patients' room there had appeared upon the cheek a pin-head-sized papule, surrounded by a red, almost wheal-like areola, suggestive of the lesion of Lichen urticatus, or of a gnat bite, and this, the patient said, was the manner in which they had always come.

(2) Miss L—, a bible-woman, aged 40 years, has suffered from "sores" for ten years. Patient is a slightly-built, highly neurotic person. Oval excoriations and scars, about half an inch long and one-eighth of an inch wide, are present on the face, arms, and legs. These she admits are due to tearing at her skin with her nails.

(3) Mrs. C—, aged 49 years. She has always had an "irritable skin." The present "eruption" began two months ago. On the face, limbs, and trunk are numerous small oval excoriations and some pigmented scars. She describes the eruption as beginning in little red patches, each patch about the size of a threepenny-piece. The patch itches intensely and she cannot help rubbing it. The slightest rub, she says, causes the skin to slide off "like a worm." She has had much worry lately and leads a very strenuous life.

(4) Mrs. D—, aged 44 years. Duration of skin-affection, eight years. Began during a confinement. Not an invalid, and well-nourished, but "nerves easily upset." The eruption is confined to the lower part of each cheek and adjacent parts of the neck, and consists of thirty or forty oval, dead-white patches on a pigmented ground. There are a few outlying patches. Patient says that there appear pin-head-sized red spots which itch so much that she is obliged to scratch them with her nail. After scratching them there is a raw bleeding surface, upon which there forms this crust. When the crust falls, there is a scar. She says it is very difficult to avoid scratching, but she can do so if she remembers not to scratch.

(5) Miss S—, aged 30 years. On the forehead and cheeks there are small oval excoriations. The patient says there appears a red and itching pimple which she cannot refrain from scratching and tearing. A crust then forms. There is a little Acne rosacea, and it seems probable that this eruption is the exciting cause of her habit of excoriating the skin. Patient went into the country for six weeks and the "eruption" disappeared, but it has since returned. She has lately had an attack of nettle-rash on the back.

(6) Mrs. M—. The eruption began about five years ago on the left arm and right thigh after the removal of the ovary. During the last two years it has left those parts and appeared on the right arm, the left leg, and the face. From the right shoulder to the elbow are numerous oval split-pea-size brown stains and a few scabbed areas of the same size. Below the elbow there are similar, but fewer lesions. On the left thigh there are numerous oval, pigmented, excoriated, or crusted patches, rather larger than those on the arm. On the forehead and chin are similar but smaller stains and a few crusted patches. It is difficult to discover from the contradictory statements of the patient whether trouble begins with itching or with a wheal or papule. She states that there is first a "red spot," which itches and bleeds freely when it is scratched and leaves a raw surface, then a crust. But when the suggestion was made that it would be interesting to see what happened if the red spots were not scratched, she said, "But the red spots don't come unless I rub them." She is highly neurotic and inclined to weep. She has looked up the disease in books and thinks it must be due to an insect under the skin.

All these cases may be grouped together under the term "neurotic or dug-out excoriations," and are probably examples of the affection which Kaposi has called Acne urticata, and which other German writers have classed as Urticaria gangrenosa or necrotisans, *i. e.*, urticaria followed by spontaneous gangrene.

Kaposi's Acne Urticata.

Kaposi, in his work on *Diseases of the Skin* (1893) and in the *Archiv für Dermatologie und Syphilis* (1894, xxvi), thus described the disease he called Acne urticata:

"There occur," he wrote, "in exacerbations repeated over a number of years acute developments of pale red, wheal-like, very hard elevations varying in size from that of a bean to that of a kreuzer or larger. They appear upon the face, forehead, nose, chin, cheeks, scalp, and, later, upon the hands and upper and lower extremities, usually on the extensor surfaces. They may last for a few hours, or more usually for from two to four days and then spontaneously involute. But, as a rule, on account of the extraordinarily severe itching and burning, the patient scratches them with a finger-nail or with a needle or point of a knife, and then squeezes them, because no relief is felt until serum and blood escape from the swollen papillæ and rete. Coagulation of the exudation and formation of new epidermis rapidly takes place, but the base and surrounding parts remain very hard and give rise to itching, burning, tension, and nervous restlessness, and the patient repeats the scratching and squeezing. At the end of one to two weeks the hardness disappears and there remain flat, brown cicatricial streaks corresponding with the area of previous inflammation and pustulation. In some cases the disease had lasted from fifteen to twenty years and constituted one of the most annoying and depressing of all skin-complaints."

The publication of Kaposi's description of this complaint was followed by a number of contributions by other writers, who, for the most part, objected to Kaposi's name of acne. Jarisch had observed a case, and regarded it as a multiple idiopathic gangrene related to Urticaria gangrenosa. Ehrmann thought it probably an urticaria or erythema due to auto-intoxication. Touton also rejected the disease from the acne group, and called it Urticaria necroticans. Loewenbach (who studied the lesions of a case microscopically) thought the disease had characters in common with urticaria and with Acne varioliformis, but had no ætiological explanation to offer. Waelsch, in a *resumé* of previous writings, arrived at the conclusion that Kaposi's disease was a "chronic recurrent urticaria, with superficial necrosis" from circu-

latory troubles, and he proposed to rename the disease "Urticaria papulosa necrotisans recidiva." Maurios, in France, in a thesis for the Paris degree, 1908, concluded that the disease was more nearly related to urticaria than to acne, and accepted the name proposed by Waelsch.

That these eruptions have nothing to do with Acne vulgaris is obvious. That the affection is related to urticaria is more probable, and many of the cases seem to point to the disease as a form of Lichen urticatus in adults. But there is little to justify the view that the erosions are the result of spontaneous necrosis. It is curious that none of the continental writers, except Kaposi himself, have looked upon the erosions as due to mechanical production, but that all have regarded them as the result of necrosis.

There is, indeed, something to be said for the theory that the pruritus is the primary and essential feature, and that the urticaria or papular elements and the erosion are both secondary, and due respectively to friction and to scratching. It is always a difficult matter in these cases to determine whether there is any "lump" or "swelling" before the itching area is scratched. In my own experience the patient at first describes an itching lump, but closer inquiry elicits the statement that the lump is not there until the spot is rubbed—and one knows how easily a wheal may be produced in many skins by the slightest injury or friction, especially in neurotic subjects. The sequence of events seems to be: Itching; friction; wheal; more intense itching; excoriation of the wheal by the finger-nail.

Even writers, as Waelsch and Maurios, who uphold the view that the wheal is primary, in describing some of their cases, give the sequence of events as pruritus, friction, swelling, erosion.

Many of these patients, always highly neurotic, have had at some time an itching skin from some definite cause, an attack of nettle-rash, gnat bites, pruritus of pregnancy, alcoholic pruritus, scabies (as in Loewenbach's case), albuminuric pruritus (case of Baum), or itchy papules on the face associated with constipation or indigestion. The rubbing and scratching begin at this time, and become a habit, which is intensified by repetition.

These cases are not to be confused with papular eczemas or prurigo, nor with Urticaria pigmentosa of adults, to which, as pruritic affections, they bear some resemblance, but from which they are

distinguished by the deliberate or uncontrollable digging out of the real or imaginary papules with the nail.

III.—L'acné Excoriée des Jeunes Filles (Brocq).

The third group of "neurotic excoriations" comprises certain examples of a small pattern excoriation which are seen in girls or young women, who are, or have been, subjects of Acne vulgaris, or who produce the erosions while endeavouring to remove real or supposed acne spots. Sometimes there is complaint of some burning or itching in the "spot." There is no intention to deceive, and the tearing at the skin is little more than a bad habit in a neurotic type of girl. These cases were first described by Brocq. The patient's face, forehead, cheeks, nose, and skin, and sometimes the sides of the neck, are covered with brownish *café-au-lait*-coloured patches, intermixed with slightly crusted excoriations and other more rose-coloured patches, which are obviously healing excoriations. On closer observation there may generally be seen some papulo-pustules and comedones, and on inquiry one finds that the excoriations result from the patient squeezing the papules or comedones, or scratching them with the nail or some sharp instrument, such as the point of a scissors. The object is to let out their contents, and so to remove a spot which is felt to be disfiguring. Generally the acne is quite masked by the excoriations. Sometimes the acne is slight or possibly imaginary. In many cases the interference with the papules becomes a veritable mania, so that the patient spends a great part of the day in front of a looking-glass manipulating papules or supposed papules, while at other times the fingers go mechanically to the face to rub the "spots," or tear at them with the nail. It sometimes happens not only the girl, but also her mother, becomes obsessed with the idea that there is a grossly disfiguring eruption which is ruining her prospects, and that the parent's concern only serves to rivet the daughter's attention on her face, and so to aggravate matters.

The following are examples of this not uncommon affection:

C. H—, aged 16 years. The forehead and chin are covered with oval split-pea-sized erosions. There is no evidence of Acne vulgaris, or, rather, there are no comedones, but several little red papules with a pustular apex. They do not itch,

but the patient squeezes them with her finger-tips, or with a piece of rag, or scratches them open with a needle. She left school two years ago on account of a "curvature of the spine," and now lives at home and "studies music."

Miss H—, aged 23 years. Has been under treatment for "acne" for two years and has had "vaccines." On the face there are numerous split-pea-sized, somewhat oval-shaped patches. Some are deeply pigmented, others are fine scars, and others shallow ulcerations or crusted erosions. The patient says that a disfiguring spot appears, which she squeezes. She says it is itchy, but not unbearable. There is no trace of Acne vulgaris and there are no papules present. The girl's mother shows far more anxiety about the eruption than the patient herself appears to feel. During a long holiday with friends at the winter sports in Switzerland the eruption disappeared entirely, but it returned when she again lived at home.

Miss H. H—, aged 22 years. Has had an eruption on the face for five years. She has had vaccine treatment. There are many excoriations and pigmented patches on the forehead and cheeks and chin. She says that little lumps appear, that these irritate and she squeezes them in order to get rid of them. She suffers from indigestion and constipation. There are no comedones.

In none of these cases was there any Acne vulgaris as in most of the cases described by Brocq, but they are to be classed, I think, with Brocq's cases rather than as Acne urticata, because the impulse to excoriate was due to the desire to remove disfiguring spots rather than on account of the intolerable itching. That the rubbing and scratching in these cases is merely a nervous habit, "a kind of imperative desire of maniacal order," was shown by one of Brocq's cases in which there was also trichotillomania, or the habit of rubbing off the hair, in this instance, of the eyebrows.

Sometimes one meets with cases which seem to form a connecting link between Brocq's cases and those of Kaposi and Wilson, in which the pruritic element is greater. Such are the two cases which I have already noted on a previous page.

Summary.

Under the term "neurotic excoriations" we may include certain skin-affections characterised by self-inflicted erosions.

(1) The erosions may be intentionally produced by hysterical persons or by malingerers, and are then generally large, oval excoriations. Dermatitis ficta or artefacta, one type of neurotic acne of Wilson (so-called Pemphigus hystericus).

(2) Or they may be smaller more dug-out excoriations which occur either—

(*a*) In more or less neurotic persons in association with intense pruritus—Acne urticata of Kaposi or—

(*b*) In young girls in association with acne or supposed acne on the face—Excoriated acne of Brocq.

In Acne urticata the lesions may occur on the face, but sooner or later they appear anywhere on the limbs or trunk; the complaint may last for many years. The excorations follow raised papules or wheals. Different views are held as to the nature of these lesions. The extreme opinions are: One which regards the wheals as the spontaneous lesions of a peculiar form of chronic urticaria and the erosions as the result of necrosis; the other, which looks upon both the wheals and the erosions as the result of scratching in a neurotic person and the tendency to scratch as a nervous habit.

In the excoriated acne of Brocq the erosions are also small, and they are generally limited to the face. The erosions are primarily produced with the intention of removing unsightly pimples and the squeezing and scratching become a habit. In some other cases there is a desire to scratch because of itching papules and these cases approach the Acne urticata of Kaposi.

The treatment of neurotic excoriations is often difficult. The principle of treatment to be employed in all forms may be briefly stated thus: Measures must be taken to prevent the self-infliction of these lesions. Among such measures are local protection, anti-pruritic applications, occupation which will help to withdraw attention from the patient's self, encouragement towards self-control, and, above all, removal from the influence of sympathetic friends or relations.

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For further references to literature of neurotic excoriations see *British Journal of Dermatology*, 1909, vol. xxi, pp. 21 and 297.

OBSERVATIONS ON MOLLUSCUM CONTAGIOSUM.

By J. M. H. MACLEOD, M.D.,

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In June, 1910, Dr. Graham Little contributed a paper to this Journal on two cases of Molluscum contagiosum in which interesting statistics were given of the incidence of the disease in various districts in Great Britain. In the London statistics, which were obtained from certain of the Metropolitan hospitals, the figures were singularly constant, and varied from 1·0 to 1·2 per mil. Out of 6712 consecutive cases of skin-disease in the Out-patient Department at Charing Cross Hospital, for example, between the years 1900–1910 there were only six cases of the disease, while in the Department under my care at the Victoria Hospital for Children the proportion was about the same. In the last edition of Dr. Radcliffe Crocker's text-book, published in 1905, the proportion is given as 2·0 per mil, which suggested that a diminution in the number of cases in London had taken place, as Crocker's patients ante-dated those included in Little's statistics.

In view of these observations, it may be of interest to record that for some reason or other during the year 1914 out of a little over 2000 cases of skin-disease in my hospital and private practice there have been eight of this affection, that is, 4 per mil, of which four were in private and four in hospital cases. In six it was contracted in London, while in the other two it was brought from abroad.

The following are a few notes on the cases:

(1) Private patient, middle-aged lady. In this case there were about forty lesions irregularly distributed on the neck, trunk, arms, and thighs. The infection was due to a Turkish bath, one of the most fashionable and expensive in the west end of London, but the precise manner of inoculation was uncertain.

(2) Private patient, hospital nurse, doing private nursing. In this case the lesions were much more extensive, over one hundred being counted, which were distributed chiefly on the trunk, upper arms, buttocks, and thighs, and the infection was again attributed to a Turkish bath.

(3) Private patient, middle-aged lady. About twenty lesions were present on the face and neck. The patient was an actress, and had been touring in the United States, where she had contracted the disease.

(4) Private patient, young lady, aged 18 years. The lesions were situated on the front and sides of the neck, and numbered about a dozen. The patient had just returned to England from Switzerland, where the growths had first appeared. She had no idea how she became infected, and was not aware of any of the other girls in the pension having suffered from it.

(5) Hospital patient, boy, aged 6 years, at the Victoria Hospital for Children. A few lesions on the face.

(6) Hospital patient, girl, aged 3 years, at the Victoria Hospital for Children. A few lesions on the face, two being at the margin of the right lower eyelid.

(7) Hospital patient, boy, aged 5 years, at Charing Cross Hospital. Three lesions on the face, one being situated at the margin of the left lower eyelid.

(8) Hospital patient, a man, aged 40 years, a naval Petty Officer in charge of one of the anti-aircraft guns at present mounted in London. This case was the only one of special interest in the group. In it the lesions were numerous, and were situated on the inner surface of the thighs, groins, pubes, scrotum, and penis. The patient sought relief at Charing Cross Hospital a few weeks ago, on account of what he described as eczema between the legs, associated with intense irritation, sometimes amounting to actual pain, from the chafing of his clothes in walking about. On examination, the condition looked at first sight like a superficial septic dermatitis of the groins and pubes complicated by the presence of small nodules on the scrotum and root of the penis. On the inside of the thighs, extending for about a hand's breadth down from the groins, were red, broken-up patches, irregular at the margins, with a few rounded lesions, which varied in size from a pin's-head to a small lentil, scattered beyond

them. The patches also extended up beyond the groins, over the pubes. The affected skin was bright red in colour, moist, but not crusted, and here and there presented a peculiar greyish sodden appearance. On careful examination, it was found to be largely composed of a conglomeration of lesions of Molluscum contagiosum, which were flat on the surface and covered with sodden epithelium, but showed the characteristic central depression and orifice from which a cheesy mass of molluscum bodies could be expressed. Beyond the main mass was a number of more typical, rounded, umbilicated, and pearly lesions. From the appearance of the diffuse patches it was difficult to decide how much was due to the coalescence of the molluscum lesions and how much to a secondary inflammatory disturbance from friction and the inoculation of micro-organisms.

There was another important feature in the case, namely, the presence of about a dozen round nodules on the scrotum, the largest of which was about the size of an exceptionally large pea. The smaller lesions were sessile and had a greyish translucent appearance, while the larger nodules were pedunculated, yellowish, and waxy-looking, with a smooth surface over which a few dilated capillaries were ramifying. None of the lesions on the scrotum were definitely umbilicated. On incising the largest lesion a white substance, like cream cheese or white lead, was easily expressed. The contents of the others were similar, with the exception that in one they had become hard and almost calcareous and had to be removed by curettage. The growths on the scrotum had been present for five years and had caused the patient no inconvenience, while the more extensive eruption and dermatitis on the thighs and pubes had only been in existence for a fortnight. There was no history of a growth on the scrotum having burst and disseminated its contents about the groins, to account for the rapid and extensive spread of the disease.

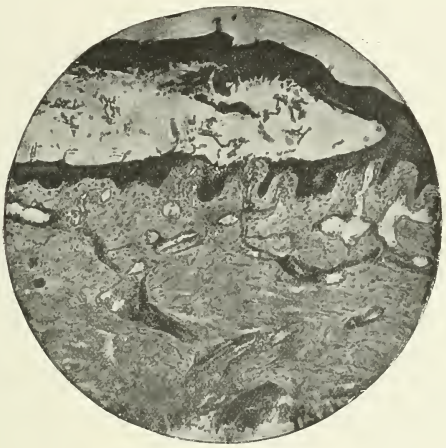
Molluscum contagiosum affecting the genitalia, though it is said to be very common on the Continent, is comparatively rare in this country.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held December 17th, 1914, Dr. J. Herbert Stowers, Vice-President of the Section, in the chair.

Dr. W. Knowsley Sibley showed a case of "*angiokeratoma.*" The patient was a girl, aged 17 years, engaged in housework, whose



mother is stated to have died of cancer at the age of forty-six; her father was also dead, cause unknown. There were five brothers and sisters, all of whom were perfectly healthy.

The patient had had an eruption on the backs of the hands for seven years, getting gradually worse every winter and remaining more or less stationary through the summer months. Recently the lesions had become distinctly more marked, and a few papules had appeared on the dorsum of some of the toes and on the heels. The patient had a "chilblain circulation," but stated that she had never suffered from chilblains. The hands and fingers were enlarged and cyanosed. She had always perspired freely over the whole body, especially on the palms, which were often very damp. The patient

stated that there was no pain or irritation, but the lesions easily bled if knocked. The eruption was present on the dorsum of all the fingers and both thumbs and over the knuckles, and consisted of small, red, pale papules arranged more or less in groups, many of which had become flat and somewhat hard to the touch. White blisters, varying in size from a pin's head to a pea, were scattered about, and occurred especially on the sides of the hands, and of the index and little fingers. Indefinite lesions were scattered about the palms, chiefly of a dysidrotic nature. Small similar lesions were present on the dorsa of the great toes and over the Achilles tendons at the heels.

A biopsy of one of the papules on the back of the hand showed the following histological condition: The primary pathological change seen in the section was a marked dilation of all the blood-vessels, together with hypertrophy of the stratum corneum. There was a large space present in the capillary portion of the derma, which contained blood corpuscles and a little fibrous tissue. There was also a dilatation of the lymph-spaces, and a slight inflammatory condition of the upper portion of the dermis.

The patient had been kept in bed with the hands covered up with cotton-wool, after being smeared over with calamine lotion, and a considerable improvement in the general condition had taken place. A pill containing 1 gr. of permanganate of potash taken three times a day, immediately after food, had diminished the general and also the local hyperidrosis.

Dr. Whitfield said the section was unlike the ordinary histological appearances of angiokeratoma; it was manifestly that of a mid-epidermic vesicle, whereas angiokeratoma was not a vesicle at any time. It appeared to be an instance of the condition on which the late Radcliffe Crocker wrote an article, in which he called it "a winter eruption." The essence of it was cyanosis, a chilblain circulation, and deeply seated vesicles which often, when they burst, left superficial ulcers. He did not know that the pathology of the disease had been worked out, but many cases of it had been shown. The case exhibited did not show either warts or telangiectasis; the lesions were not angiomatous, and they were not keratomata. The microscopical appearances of angiokeratoma were more like those of a cutaneous wart.

The Chairman (Dr. J. Herbert Stowers) asked whether the exhibitor considered that the photograph submitted included typical lesions of the disease in question and also whether he had seen the excellent coloured plates published together with a series of articles on "angiokeratoma" by Dr. Pringle, in the *British Journal of Dermatology*, vol. iii, (1891). As the views of the case of

members generally differed from that of the exhibitor, he invited Dr. Sibley to show the patient again at a future meeting. It was certain that the dysidrosis presented by the patient was particularly noticeable.

Dr. Adamson also disagreed with Dr. Sibley's diagnosis; he saw no reason for calling it angiokeratoma, either clinically or histologically. There were none of the appearances characteristic of angiokeratoma of Mibelli and Pringle. He regarded the case as one of hyperidrosis with associated cheiropompholyx. The lesions present were vesicles. The cavity in the epidermis in the microscopical section was a vesicle, and not a dilated blood-vessel.

Mr. H. C. Samuel asked whether the patient's hyperidrosis was as bad in the summer as at present.

Dr. Sibley replied that the section was taken from the back of the knuckles; the lesion, which was a cavernous space, had its seat in the papillary layer and contained both fibrous tissue and red blood cells. The condition at present had more of the angioma element than of the keratoma. The lesions had never broken down and ulcerated. There was a marked dilatation of lymph-spaces and blood-vessels deeper down. He remembered Dr. Pringle's article quite well.

Dr. W. Knowsley Sibley also showed a case of *Erythema pernio*, (?) *Lupus erythematosus*. The patient was a girl, aged 16 years, a dressmaker by occupation. The father was living and well; the mother suffered from asthma, bronchitis, and rheumatism. She had had scarlet fever, measles, and whooping-cough, and occasionally complained of muscular rheumatism. She stated that she never suffered from chilblains, but her fingers and hands were always cold to the touch. Ecchymoses were apt to appear from time to time from no apparent cause. The eruption had been present on the left hand each winter for the last four years. It was entirely absent during the summer months and generally reappeared towards the end of September of each year. In her previous attacks the disease had always been confined to the left hand, but in the last five weeks it has also attacked the right hand slightly. The eruption was present on the dorsum of the fingers of the left hand and consisted of an erythematous condition with small papules, some of which were isolated and others grouped. Some of the lesions towards the finger-tips were superficially ulcerated and slight scarring was present. On the right hand the eruption was limited to smaller but similar lesions. The palms were unaffected. No lesions were present about the face, ears, or feet.

Dr. Graham Little regarded the case as a perfectly straightforward example of Lupus erythematosus, and did not understand why it had been shown under other designation. Chilblain circulation was commonly present in such cases of

Lupus erythematosus, and its presence did not justify the classification with Lupus pernio.

The Chairman considered that the diagnosis of this case as one of Lupus erythematosus was undoubtedly correct.

Dr. Dore also regarded the case as a typical one of Lupus erythematosus. In some of the text-books Lupus pernio was classed with Lupus erythematosus, but it was probably more closely allied with Lupus vulgaris. In the case of the Belgian boy shown at the last meeting by Dr. Abraham, Dr. Pringle had pointed out that there were lupus nodules associated with the erythema.

Mr. McDonagh considered the case to be a Lupus erythematosus. There were one or two interesting points which occurred to him, and which he thought should be borne in mind in connection with it. The patient was a girl, and the condition was becoming worse. Many of the disappearing lesions had left scars, there were telangiectases about the affected parts, and both hands were involved. He therefore thought the patient might easily get very much worse, develop acute generalised Lupus erythematosus, and die of an acute pneumococcal or of a tubercular infection. Three of the cases of acute Lupus erythematosus which he had seen commenced in this way, and all the patients were girls.

Mr. H. C. Samuel said there were hæmorrhages in the skin, and often in cases of chilblains there was a diminished coagulability of the blood. It would be interesting to know what the coagulation time was in the patient exhibited.

Dr. Whitfield pointed out that the coagulation time would not be of any value in diagnosis, because the coagulation time in Lupus erythematosus was also slow.

Dr. Sibley replied that when he first saw the case he regarded it as a Lupus erythematosus, but when he learned that it completely disappeared in the summer, and that she had little ulcerations on the finger tips, he thought uncomplicated Lupus erythematosus would not act in that way. The fact that it was symmetrical was much against it being chilblains. The backs of the fingers seemed typical. He had not seen the patient in the summer.

Dr. H. MacCormac showed a *case for diagnosis, (?) persistent nodular Erythema multiforme*. The patient, a woman, aged 64 years, stated that the condition began six months previously on the left foot as a "sore"; it had then spread to the hands, knees, elbows, etc., and now showed a well-marked symmetrical and bilateral distribution, especially tending to be present on points of pressure. The eruption, which was very nodular in its final stages, apparently began as a small flat lesion tending to enlarge, while clearing up in the centre, so that an area from a sixpence to a half-crown in size could be observed with a definitely raised margin of similar colour to the normal skin, on the knees, elbows, knuckles; and on the ear and nostril the lesions were of a purple tint, and here a superficial central

necrosis occurred. There was a tendency to spontaneous resolution, especially during rest in bed, without any resulting scar. The family history was good, but one son was suffering from pulmonary tuberculosis. The Wassermann reaction was negative. Sections showed areas of cell infiltration with many polymorphonuclear leucocytes, but plasma cells and other round cells were also present. There were no giant cells. These appearances quite negatived the original diagnosis of a tuberculide.

Dr. MacCormac regarded it as a toxic eruption, and the Section supported that.

Dr. Adamson said that the case was, in his opinion, one of Erythema multiforme of persistent type. Several similar cases had been shown at the Section meetings during the past two or three years. The first one he could recall was exhibited by Dr. Little* as a "case for diagnosis," and the speaker had then suggested the diagnosis of "Erythema multiforme" with all its features exaggerated. Dr. Little's case was shown again some months later,† with the condition persisting unaltered. Dr. Gray had brought forward another case‡ (in May, 1913) with the diagnosis "persistent erythematous eruption"; and Dr. Sequeira a third case, also last year,§ as Lichen verrucosus, which the speaker believed belong to the same class. In these three cases, as in that now shown by Dr. MacCormac, the lesions consisted of persistent raised, circular plaques or rings symmetrically distributed in the situations affected by the eruption of Erythema multiforme—backs of hands and forearms and elbows and knees—and in Dr. Little's case on the cheeks.

Dr. Graham Little agreed with Dr. Adamson, who had mentioned his own similar case, shown at this Section, and also at the exhibition of cases at the late International Congress in London, when the opinions of its nature had been very diverse. In that case circinate vesicating areas, such as were described by Dr. MacCormac, had been the characteristic lesion, and the distribution had been also curiously like that of the present case. Dr. Little deprecated its identification with Granuloma annulare, as suggested by one of the members; in the latter disease—of which he had seen a large number of cases—he had never seen or read of vesication as being present at any time. The disease in Granuloma annulare was much more deeply situated.

Dr. Douglas Heath said he saw Dr. Sequeira's case, referred to by Dr. Adamson, several years before it was shown at the Section; at that time it was in a more inflammatory state, more like Erythema multiforme than when it was shown by Dr. Sequeira. On the knees, elbows, and knuckles the lesions were button-like and of dusky purple colour. This, and the absence of scaliness, suggested Erythema multiforme; though when Dr. Sequeira showed it under the diagnosis "(?) Lichen verrucosus" the patches were covered with horny scales.

* *Brit. Journ. Derm.*, 1912, xxiv, p. 119.
† *Ibid.*, 1912, xxiv, p. 270.
‡ *Ibid.*, 1913, xxv, p. 160.
§ *Ibid.*, 1913, xxv, p. 419.

Its type and symmetry were strongly in favour of it being a toxic erythema; and he thought those cases varied a good deal from time to time. In the case he saw, the nurse at the hospital said that at times the lesions were fairly flat, and at others elevated. This present case was somewhat circinate at its margins, just as Dr. Sequeira's case was.

Dr. Gray expressed his agreement with Dr. Adamson; he had seen one or two similar cases, and the lesions nearly always occurred at the periphery of the limbs and on the knees and the backs of the elbows. There seemed to be different types running into one another. In the case shown by him at this section the lesions came out very suddenly, and often there was hæmorrhage into them, and some blistering followed by septic infection. In a case shown by Dr. Bunch at the International Congress, which the speaker regarded as being of the same nature, the lesions were not so acute as in his own. The type which Dr. Sequeira showed seemed to be still more chronic; there was no vesication, and horny thickening was very marked. He had had another case, in a child, in which the lesions were confined more or less to the backs of the fingers, which were very thickened and watery, and were associated with very well developed rheumatic nodules about the joints, especially the elbows, knees, and fingers. That case cleared up in an extraordinary manner under ordinary anti-rheumatic treatment. The condition in his other case had slowly disappeared after many recurrences. Dr. Bunch described the case which he showed at the International Congress as Granuloma annulare, and he (the speaker) thought there was some connection between the latter condition and this group of cases under discussion. He also thought that the cases described by Crocker under the name "Erythema elevatum dintinum" belonged to the same group. This was true of the cases which had been described by Continental observers under that name, but he could not say whether they were the same disease as Crocker originally described.

Dr. MacCormac replied that he considered that a superficial necrosis occurred in this case. At one time it had been diagnosed as Erythema elevatum dintinum, and at another time it was thought to be granuloma of unknown nature. Dr. Pringle, who had watched the case for some time, had authorised him to say that he had been inclined to the idea that the disease was a multiform senile tuberculide, largely on the ground of the marked central necrosis which occurred; but the microscopical findings definitely excluded that diagnosis, which had been abandoned.

Dr. E. G. Graham Little showed a *case for diagnosis*: (?) *Multiple rodent ulcer or Epithelioma adenoides cysticum* in a male patient, aged 41 years, with a large number of small tumours on the face, the diagnosis of which lay between "multiple rodent ulcer" and "Epithelioma adenoides cysticum," with a leaning, perhaps, to the latter. The case was of very special interest, for it seemed to offer a combination of circumstances which favoured either alternative, and it in fact illustrated the impossibility in our present state of knowledge really to differentiate these two conditions, if, indeed, they were capable of differentiation.

The patient gave the following remarkable family history: His mother had had five or six similar swellings on her forehead, which had commenced at the age of 30 years, and had not ulcerated. No other members of the mother's family had been affected, but her children seemed to show either numerous nævi or tumours, which might be supposed to be of the same type as in the present patient, who was the eldest son. The second son, aged 36 years, now in Canada, had a tumour, congenital and probably a nævus, as the patient said it was like the tumour present in his own son, which had been seen by the exhibitor, who regarded it as undoubtedly a nævus. This man had no children. The third son, aged 33 years, had a "nævus" on the forehead, also congenital. He had no children. The fourth son, aged 30 years, a seaman, now with the North Sea Fleet, had a number of tumours "exactly like the present patient's," and situated on the face and forehead. These had made their appearance at the age of 20 years. He had no children. The patient, A. W—, had four children, of whom the eldest, aged 11 years, had some small tumours which were regarded by his father as of the same character as his own. This boy had been examined by the exhibitor, and was found to have a cavernous nævus about ½ in. in diameter on the chest, which had first shown itself at the age of 7 years, and a number of dead white tumours the size of a small pinhead, which were probably ordinary milium, distributed sparsely on the eyelids and about the inner canthus of both eyes. It was interesting that milium had been noted in conjunction with some earlier cases of Epithelioma adenoides cysticum.

The patient, A. W—, had had no tumours until the age of 20, when he first noticed the single wart-like lesion now to be seen on his upper lip. In the following twenty years a succession of tumours had made their appearance, chiefly in the neighbourhood of the upper and lower eyelids, and about the inner canthus of both eyes, on the temples, in front of and behind the auditory pinna; and there was a specially thick group of larger tumours at the junction of the forehead and nose. One of the largest tumours was situated on the left side of the forehead and this was also the most deeply pigmented; it had been excised and sections were shown which would be described later. There was a single warty and pigmented lesion of the same type on the chest. The appearance of the tumours varied somewhat, some

being wart-like, some of a waxy translucence, with either a pink or dead white tint. Some, and especially the larger, had a network of dilated vessels running over the roof of the tumour. A remarkable feature of several of the lesions was the fact that they became pigmented *after* developing at first in the more usual wax-like way. In several cases the pigment was in the form of a granular, deep black deposit, much as if tattooed with gunpowder. The patient was positive that the pigmentation was secondary to the formation of tumours and not *vice versâ*. Their increase in size was relatively rapid, a swelling as large as a green pea forming within twelve months; the average size was from $\frac{3}{4}$ in. to $\frac{1}{2}$ in., and some sixty discrete lesions in all could be counted, and new ones kept coming. Ulceration had never occurred in any of these.

Histologically, the evidence seemed, if anything, in favour of the diagnosis of rodent ulcer, but the exhibitor did not pretend to be able to distinguish the appearances of Epithelioma adenoides cysticum from those of rodent ulcer, and did not think any hard-and-fast grounds of distinction existed. In a paper describing two cases, which were reported as cases of Epithelioma adenoides cysticum, contributed to the *British Journal of Dermatology* in May, 1914, the author had dwelt on the difficulties of establishing any means of differentiation. In a friendly criticism of these cases Dr. Adamson had expressed his opinion that both were examples of rodent ulcer. This present case was an even more difficult and puzzling one to classify. There seemed a certain degree of evidence for family inheritance, although the patient's opinion that his own case and his son's were the same disease had proved illusory, and threw some doubt on his accuracy in the other cases also. If a true observation, it was a factor in favour of making the diagnosis of Epithelioma adenoides cysticum. It was of interest to record the opinion of a general pathologist of rather special knowledge in malignant growths, Dr. Kettle, Assistant Pathologist to St. Mary's Hospital, who had had a long experience of cancer at the Cancer Hospital. This observer had seen sections from all three cases and his opinion had been that the present case and the second of the two cases reported in May were examples of rodent ulcer and that the first case was Epithelioma adenoides cysticum. The development of pigment in the tumours subsequent to their formation was as far as the exhibitor knew unrecorded in rodent ulcer, but pigment

seemed to have been not infrequently present in recorded cases of Epithelioma adenoides cysticum. It was, of course, true that rodent ulcer frequently developed on the site of pigmented moles, and in that way rodent tumours might be pigmented, but the history in this case was totally different in that the tumours had appeared on non-pigmented areas and had subsequently become pigmented. This quality of pigmentation was therefore in favour of the identification of this case with Epithelioma adenoides cysticum, as was also the multiplicity of tumours, their distribution and their early advent, the long period of tumour formation without ulceration, and, above all, the family history, if reliable. But it was interesting to note that the distribution, and especially the curious straying of lesions on the chest, which in the Continental cases had been the site of election for the appearance of Epithelioma adenoides cysticum, the multiplicity and long immunity from ulceration of the vast majority of lesions had also been features of the second case recorded in May, which was not entirely accepted as an example of Epithelioma adenoides cysticum, under which name it had been described by the exhibitor. It seemed, therefore, rather desirable to revise the whole of our conceptions of the nature of this curious disease and its relation with rodent ulcer.

With regard to treatment, the exhibitor proposed to keep the man under observation, and to withhold any active measures as long as there were no symptoms of discomfort or ulceration.

Dr. Adamson quite agreed that this case should be called multiple rodent ulcer. His view * was that multiple rodent ulcer and benign cystic epithelioma (of Brooke) were essentially the same disease, but different clinical types: and it was useful to retain the two names as clinical terms. Pathologically and ætiologically they were alike. Both were basal-cell epithelioma indistinguishable under the microscope, and both were congenital in the sense of the Cohnheim embryonic cell-rest theory, and both affected the same areas on the body. The nodules might be described as abortive attempts to form pilo-sebaceous follicles. Embryonic cells destined to become pilo-sebaceous follicles had remained latent until aroused with the general awakening of these structures at puberty (or again later in life when there was a fresh tendency to hair-growth in certain parts); but at this time the dormant cells had lost their power of differentiation and retained only that of proliferation, so that lobulated masses of embryonic cells were formed, but no pilo-sebaceous structure. That the growths of later origin should break down and ulcerate could be readily explained by the lower vitality of their component cells awakened to activity at that period of life; and that

* *Lancet*, October 17th, 1908, and March 21st, 1914.

would also explain the tendency of rodent ulcer to destroy the normal tissues as its growth advanced; for its cells were decadent cells which would naturally be harmful to the normal tissues among which they were growing. The difference between the benign basal-cell epithelioma and rodent ulcer—which was, after all, only one of degree, for some rodents exhibited no tendency to invade deeper tissues—was much less wide than the difference between rodent ulcer and true carcinoma. In regard to the distinctions between multiple rodent ulcer and benign cystic epithelioma, which the writer had pointed out in 1908, these seemed now to be removed and were no longer an obstacle to the joining up of these two complaints. At a recent meeting of the Section the speaker had brought forward some member of a family of which three females and two males were affected with multiple benign cystic epithelioma, these showing that the disease was not confined to females as was formerly believed. And here was Dr. Little's case of multiple rodent ulcer in a man who gave a family history of several other members of both sexes affected with rodent ulcer or benign tumours, thus demonstrating that multiple rodent ulcer might be a family disease.

Dr. Whitfield said he thought there was a more important difference than the mere fact of ulceration between rodent ulcer and benign cystic epithelioma. He believed he could distinguish between the two under the microscope. In the latter condition the growth was strictly limited, whereas in rodent ulcer it was ill-defined. Rodent ulcer was not simply a mass of cells which developed at the age of forty and owing to their degenerate character broke down and ulcerated; it really infiltrated into tissue, including bone, and went straight through it. It was not malignant in the sense of causing wide-spread metastasis in organs, but it possessed an enormous local malignancy. Even in early rodents one could generally see besides the mass of the tumour outlying branches, and by looking at the edge of the section one got an indication as to which of the two conditions named the case belonged to. Although Dr. Adamson was probably right genetically, in that both occurred as different types of congenital lesion, one of them was essentially a benign condition and the other was a progressive malignant disease. He did not think the breaking down had anything to do with it; almost any tumour would break down. One did not often see rodent ulcer grow to the size of a hen's egg; but it would grow laterally to any degree, though not producing a greatly elevated tumour. The other kind of tumour was elevated and nearly spherical.

Dr. Dore said that, speaking clinically, he thought there was no doubt that benign epithelioma was potentially a rodent ulcer. He had had two cases under his care in a brother and sister, and in both patients one of the growths had enlarged and assumed the clinical and microscopical characters of a rodent ulcer. He thought the condition was parallel to that of a wart or mole which became malignant later in life.

Mr. McDonagh thought that no difficulty need arise about these tumours, if their origin was considered. The epidermis primarily consisted of one layer of cells, and the cells resembled those which constituted later the basal-celled layer. As the embryo developed this one layer gave rise to several other layers, and later still some of these layers developed into special structures,

such as hair-follicles or sebaceous and sweat glands. He considered that a rodent ulcer arose from the most embryonic cells, and was more malignant than the other types, because the cells were more embryonic, but that the malignancy differed entirely from the malignancy of adult tissue. The former was not a true malignancy, but embryonic activity; the latter was true malignancy and due to the nuclei and nucleoli of the host's cells acting as parasites upon him. If the cells of the tumour arose from cells which were not quite so embryonic, the case would be one of benign cystic epithelioma, to which type the case shown conformed. Tumours still less embryonic would be papillomata, tricho-epitheliomata, sebaceous adenomata, and syringomata, according to the tissue affected. As one could not distinguish microscopically the most embryonic type of cell from one a little less embryonic, therefore one could not diagnose in this way every case of rodent ulcer from every case of benign cystic epithelioma, but clinically they could be easily differentiated.

The Chairman said that the Section was much indebted to Dr. Graham Little for exhibiting so interesting a case, and inquired what plan of treatment he intended to adopt.

Dr. E. Graham Little also showed *two cases of arrest of growth of the hair of the scalp of unexplained causation.* Case 1.—J. D—, a young Welsh girl, aged 20 years, gave the following history: She had had "eczema" of the scalp at the age of 12, when her hair had been long enough to reach her shoulders. About three years ago she had had an attack of Alopecia areata, from which she had apparently speedily recovered in the sense of getting a thick growth of hair, but in the last three years it had remained stationary at the length of about 1 in. The scalp was quite normally covered with hair, which had nothing peculiar about it except its persistent shortness. The pubic and axillary hair was normal. The patient was taken into St. Mary's Hospital with a view of investigating the condition of the ductless glands. A skiagram of the skull showed an apparently normal sella turcica. A skiagram of the chest seemed to show an enlarged thymus, an observation which was in accord with the somewhat undeveloped juvenile type of the patient. Palpation of the abdomen revealed the presence of a mass in the left epigastrium and hypochondrium, not definitely continuous with liver or spleen, and the connections of which were obscure. It moved with respiration and was apparently deeper than the resonance of the intestine, so that it might be a pancreatic tumour. There was no tenderness on deep palpation of the abdominal wall. Menstruation began at the age of 17 and was normal. The thyroid gland seemed normal. Her mental

development was rather below the average, but not notably so. Her sugar tolerance had been tested by Dr. Castellain, Medical Registrar to the Hospital, to whom the exhibitor owed the excellent notes. She was able to deal with 8 oz. of sugar without showing it in the urine, so that she might be regarded as showing a somewhat high tolerance in this respect. Individual hairs had been examined microscopically, and there was no evidence of monilethrix or trichorrhexis. The nails were not in any way affected.

Case 2.—The second case was a girl, R.A—, aged 14 years, whose hair has never grown longer than its present length of about 1½ in. The mother had brought her to the Skin Department of the East London Hospital for Children when she was aged 3 years. The hair was about the same length as now; no change had been noted in the eleven years intervening. The scalp was rather thinly covered with hair, which was lustreless and lifeless in aspect, but when examined microscopically showed no evidence of moniliform hair or trichorrhexis. Other children of the family were normal as regards the growth of hair. The child's mental development was unusually good, and there were no other symptoms of ill-health. There was no myxœdematous aspect. The nails were not altered. She had commenced to menstruate early, three years ago, and after the first year menstruation had been normal. The thyroid seemed normal. Further investigations would be undertaken in this case when she could be admitted to hospital.

Dr. Pernet asked if the patients showed any thyroid changes?

Dr. Dudley Corbett showed a *case for diagnosis* (*an undescribed granuloma*). The patient was a Belgian youth, aged 23 years. There was nothing of note in the family history, and he had apparently never suffered from any serious illness. He came to England four years ago, and had worked partly as a waiter and partly in the employment of a butcher. The skin-eruption from which he was now suffering appeared for the first time in October, 1910, lasted throughout that winter, but disappeared during the following summer. Since then it had regularly appeared every autumn and cleared up as summer approached. He was admitted to St. Thomas's Hospital on October 27th. At first the eruption was taken for a syphilide, and, although Wassermann's reaction was negative, he received two doses of neo-

salvarsan, together with regular inunctions of mercury. The treatment, if anything, had aggravated the condition.

The eruption itself possessed certain unusual characters. Taking it as a whole, it was papulo-vesicular in type and of widespread distribution, involving the face, neck, trunk, and limbs, including the palms and soles. There were no lesions on the scalp and the mucous membranes were spared.

Individually the lesions varied in character, and by watching certain areas of skin it seemed probable that this variation was due to their appearance in different stages of development. The stages occurred apparently in the following order:

(1) A small papule, yellowish-pink in colour, the size of a pin's head.

(2) A papulo-vesicle the size of a pea or smaller, pink at the base, but whiter and more glistening at the apex. When pierced at this stage a serous fluid could be expressed. The apex was rounded and not depressed.

(3) A flatter papule, bluish-pink in colour, covered with varying degrees of scaliness.

(4) Small and round areas of skin stained faintly purple. This staining was well shown in a strong light, such as that from an arc lamp.

Except where surface injection had occurred there was no inflammatory areola at the base, and to the finger there was only slight evidence of infiltration of the deeper layers.

He had had on admission a gonorrhœal discharge with some epididymitis, but this had cleared up under suitable treatment. The urine was acid, and contained neither albumin nor sugar. When antisyphilic treatment was discontinued he was put on arsenic, and was now taking 10 minims of liquor arsenicalis three times a day.

With a view to improving his appearance X-ray treatment had been given to his face, three one-third pastille doses having been applied during the last month. The lesions had yielded rapidly to the X-rays, leaving behind small reddish-stained areas.

Dr. Stainer and he were agreed that the clinical features of this case did not correspond with any previously described condition. Dr. Whitfield then very kindly saw the case, and agreed as to its unusual features. He was inclined to think that apart from the history it bore certain resemblances to an eruptive cystic adenoma, but that diagnosis was impossible without a biopsy.

Sections had been made, and Dr. Whitfield had given the exhibitor his opinion upon one of them. It was, however, evident that further investigation was necessary before a diagnosis could be made. For many reasons it would appear to be an infective granuloma, but the epitheloid character of the cells composing it distinguished it as one of a very unusual type, and at one time led one to think that the new tissue might be epithelial in origin.

Dr. Whitfield said that when he first saw the case he realised that to him it was a new disease, not merely an unusual phase of a familiar disease; and under the microscope its features were unfamiliar to him. He was not prepared to support very strongly his idea that these were epithelial cells, because he saw there might be a fallacy. But he was not familiar with a granuloma which behaved in the same way. So that either he had to admit that these were epithelial lobes such as he had never seen before, or that they were arrangements in endothelial tissue in a granuloma which he had not seen hitherto. Probably Mr. Shattock was right. In some places one saw an extraordinary regularity in the intercellular connections, while in other places it was very difficult to distinguish between the surface of the tumour and the true overlying epidermic tissue. The pathology seemed to show a new and undescribed disease.

Dr. Adamson said he thought the condition was a Xanthoma diabeticorum; it was more like that, histologically and clinically, than anything else. It would be interesting to know whether the patient was a beer-drinker. Several cases of xanthoma had been recorded in beer-drinkers who had no glycosuria.

Dr. Graham Little said he was glad to hear Dr. Adamson's opinion, because without seeing the section that had been his own suggestion. He had seen xanthoma tumours as red as in this case; yellowness was not absolutely essential to diagnosis of xanthoma.

Dr. Pernet elicited from the patient that he had only discontinued beer-drinking since the rash appeared. He agreed that in some of the xanthoma rashes were not xanthomatous in colour. There was some points about the case in favour of its being xanthoma, though there was no sugar in the urine. Perhaps, too, the eruption had been modified by the various treatments employed. In some areas the individual lesions were extremely like Lichen planus, a condition in which it should be borne in mind there were clinical variations.

Mr. McDonagh said he regarded the case as one of infective granuloma. The lesions left scars, which was against the diagnosis of Xanthoma diabeticorum, and the lesions of the penis reminded him of Lichen nitidus. From an examination of the histological specimens he thought that the cells which had given rise to so much discussion were endothelial cells, and that the specimens resembled the endothelial type of tubercle. One of the sections resembled very closely the histology of Lichen nitidus, and therefore he thought that the disease was probably tubercular, but that a protozoal or fungus cause would have to be excluded.

The Chairman drew attention to the remarkable configuration of the lesions. In view of its rarity and special interest he invited the exhibitor to

submit it to the standing Pathological Committee for further investigation and report.

Dr. CORBETT replied that he was very willing to submit it to the Pathological Committee, but he wished first of all to make further sections and to stain some for Altmann's granules.

Dr. S. E. DORE showed a *case for diagnosis* (?) *Xantho-erythrodermia perstans*. The patient was a man, aged 35 years, who presented an acute erythematous macular eruption on the trunk of ten days' duration, with many of the characters of Pityriasis rosea, but with a peculiar yellow line. On the front of each shin there was also a smooth rectangular patch of chronic dermatitis of a deep yellow colour which had been present a year, and on the scalp there were several atrophic bald patches of about the same duration. In view of the fact that the eruption on the trunk was similar in colour to that of the patches on the shins it was thought that the two conditions might be part of the same disease and a tentative diagnosis of Xantho-erythrodermia perstans was made.

Dr. PERNET did not consider that the rash on the body in this case fitted in with the diagnosis of Xantho-erythrodermia perstans. The duration of the condition was against it. He referred to a case of Xantho-erythrodermia perstans in a young adult he had brought before the Section.

Dr. GRAHAM LITTLE did not think the colour was against the diagnosis of Pityriasis rosea; a number of cases of the disease had an even darker tint. He had shown a case in which the lesions were almost walnut colour and gradations from that shade to pink and yellow were reported. He regarded the lesions on the abdomen as Pityriasis rosea, and as having no connection with those on the leg and the head.

The CHAIRMAN remarked that his opinion coincided with that expressed by Dr. Little. He did not think complete reliance could be placed on shades of colour in order to establish the diagnosis of Pityriasis rosea. It was particularly difficult to estimate them by artificial light.

Dr. S. E. DORE showed a case of *Alopecia areata of the scalp and left eyelids* in a boy, aged 11 years. Both eyelids were completely devoid of hair and there were several patches of alopecia of the scalp. The right eyelids and eyebrow and the left eyebrow were unaffected. The boy had had a similar attack, affecting the scalp and left eye only, about a year ago. Recovery ensued, but the hair had fallen again from the same parts during the past two months. Dr. Whitfield has published a small series of cases of Alopecia areata associated with some error of refraction, but in the present case the vision had been carefully tested and found to be normal.

The Chairman asked whether Dr. Dore had seen any case in which complete loss of eye-lashes followed the presence of pediculi apart from treatment. He had seen an instance of this in a young child. The pediculi were carefully removed after the use of a mild antiseptic fomentation to soften the crusts. Subsequently, the lashes were completely shed on both sides of the face. There was no alopecia elsewhere. Loss of eye-lashes on one side associated with alopecia was very rarely met with.

Mr. Samuel asked if there was any history of local trauma to the affected parts.

Dr. Dore replied that he had not seen alopecia of the eyelids following pediculosis of the eye-lashes, but he had pointed out that pediculosis of the scalp not uncommonly preceded Alopecia areata, even in adults.

Dr. S. E. Dore, showed a case of *Lichen planus hypertrophicus, with excoriations,* in a woman, aged 56 years. The eruption began six years ago, but had been worse during the past three years. It was chiefly situated on the hips and thighs, with scattered lesions on the back, shoulders, and arms, and consisted of raised violaceous plaques, irregular in shape and size, many of which were deeply excoriated on the surface. Some of the patches had disappeared, leaving atrophic scars. The mucous membrane of the mouth was not affected. The patient complained of constant itching. She had had her ovaries removed fifteen years ago, and it was possible that there might be an additional neurotic element in the case. The exhibitor thought that excoriations were rare in this disease, and that spontaneous disappearance of the lesions was uncommon.

Dr. Graham Little asked whether the excoriations preceded the thickening. Was it lichenification of traumatic lesions? Could artefact causation, for example, be entirely excluded?

The Chairman confirmed the diagnosis expressed by the exhibitor, and regarded the case as one in which the hypertrophied masses were secondary to the papules of Lichen planus, the special characteristics of which were so well known. In his experience the itching was always much less severe in the hypertrophic stage than in an ordinary development of Lichen planus. He had seen instances in which these masses had disappeared spontaneously, leaving macules corresponding in character with those now seen on the patient's body, which at first sight suggested superficial scarring but which eventually cleared away. He considered that the habit of scratching was calculated to keep up the tendency to papule formation, and certainly to add to the secondary hypertrophy when it existed. Prolonged baths and X-ray treatment were likely to be of much benefit to the patient.

Dr. Douglas Heath said he did not concur in the diagnosis of Lichen planus. If it were Lichen planus he thought one should find the original Lichen planus papule or patch. He suggested it might be a severe prurigo, and that the severe

itching caused the patient to tear herself. Most of the lesions seemed to have been aggravated by interference on her part.

Dr. Gray said the Kromayer lamp had a good effect on these extensive cases, starting with five-minute exposures at 25 cm. distance, once a week or so, the dosage depending on the amount of reaction. Many of these conditions cleared up when the itching was stopped.

Dr. Adamson said he had always found hypertropic Lichen planus was very difficult to cure. In his experience X-rays had no curative effect on the disease.

Dr. MacCormac said that after lumbar puncture some cases cleared up marvellously; even in twenty-four hours they might begin to do so. It certainly seemed to relieve the itching; and a good many of the lesions of Lichen planus were the result of scratching. He had employed lumbar puncture successfully in various pruriginous conditions.

Dr. Dore, in reply, said he had not been able to make out definite Lichen planus papules in the case. The hypertrophic variety of Lichen planus did not yield readily to X rays, but he had treated two or three cases with success.

Dr. P. S. Abraham showed a case of *Lupus erythematosus of the fingers, with Lupus pernio on the nose.* The patient was a female, aged 50 years, who was never very strong, married, with two children, the youngest, aged 17 years, being healthy. She had had a miscarriage nine years ago. There was a history of abscess in the ear thirty years ago and of abscess in the neck seventeen years ago. No history of tubercle in the family. The lesions on the hands and fingers first appeared on one knuckle in September, 1913, and on the ears and nose last March. The affection on the hands and fingers gave rise to much irritation at all times, and there was also irritation in the toes, where she used to have chilblains. The patient's pulse was rapid and her circulation feeble. The lesions on the fingers had some resemblance to hypertrophic Lichen planus, but the typical condition in the ears was enough to confirm the diagnosis of "Lupus erythematosus."

Dr. Dore said he agreed with Dr. Abraham's diagnosis although the patches on the hands simulated Lichen planus. He thought, however, that the patch on the nose was also characteristic Lupus erythematosus and not Lupus pernio.

The Chairman entirely agreed with the observations of Dr. Dore, who exhibited this patient for Dr. Abraham.

Mr. H. C. Samuel said the case was more like the scaly type of erythematous lupus generally seen on the scalp than that usually met with on the hands.

CURRENT LITERATURE.

CHEILITIS EXFOLIATIVA. Henry Kennedy Gaskill. (*Journ. Cut. Dis.*, July, 1914, vol. xxxii, p. 498.)

In this contribution three cases of this rare affection are recorded, in two of which there was evidence of seborrhœic eczema, an association which has been observed in cases previously described by Besnier and Galloway. The cases were perfectly typical of the condition, which consisted of the rapid formation of crusts in the vermilion of the lips which were adherent chiefly to the mucous membrane of the mouth. These crusts tended to separate in a few days when new ones began to form. There was no itching of the lips connected with them, but in one case there was a distinct burning sensation and in two of them swelling was a marked feature. Repeated examinations were made for micro-organisms in these cases but with negative results, and there was no indication in any of them of a possible cause. J. M. H. M.

COLLOID DEGENERATION OF THE SKIN, WITH REPORT OF A CASE OF SO-CALLED COLLOID MILIUM. M. B. Hartzell. (*Journ. Cut. Dis.*, vol. xxxii, October, 1914, p. 1.)

After discussing the literature on the subject the writer has reported a case of this rare affection originally described by Wagner in 1866. The patient was a man, aged 43 years, and the lesions were the typical, pin-head-sized, firm, translucent elevations of a lemon yellow tint containing a transparent jelly-like material, and situated over both malar prominences and on the bridge of the nose. There were no subjective symptoms associated with them, and the disease had lasted three years.

Microscopical examination of a lesion removed from the right malar region showed: (1) A marked thinning of the epidermis with disappearance of a considerable part of the basal-cell layer and colloid degeneration of the prickle-cells in various places. (2) Complete disappearance of the papillary and subpapillary layers of the corium and their replacement by colloid material. (3) Varying degrees of degeneration and destruction of the elastic tissue.

The writer considered that a careful study of this case demonstrated quite conclusively (1) that colloid degeneration of the skin of the type represented by the so-called colloid milium is not a disease of the elastic tissue alone, but affects the collagen and elastin in an equal degree; and (2) that the cells of the epidermis may share in the degeneration, although, judging from the observations of other authors, this is probably infrequent. J. M. H. M.

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"FROST-BITE."

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4. The Subjective Manifestations occurring amongst the Cases as seen on the arrival of the Patients in this Country.

   Two groups:

   (*a*) Gross objective changes and few subjective complaints.

   (*b*) Few objective changes and many subjective complaints, hyperæsthesia, hypæsthesia, anæsthesia, general signs of neurosis.

5. The Term "Frost-bite" wide; Three different Groups of Disorder consequent upon Exposure to Cold.

   (1) Classical frost-bite.

   (2) "Frost-bite" without frost.

   (3) "Frost-bite" as a neurosis.

6. The Prognosis, Treatment, and Prophylaxis of these Three Types of Disease.

7. References.

In times of peace the results of exposure of the human body to severe cold, or to cold and damp, are rarely seen by medical men working in Central Europe, but at the present time the number of cases diagnosed as "frost-bite" and invalided from the front is sufficient to make this subject important, both from the military and medical point of view. In considering the effects of a physical stimulus such as cold two distinct periods have to be clearly separated—a period during which the physical agent is still active and primary disturbances predominate, and a second during which we are dealing with purely secondary effects. The cases of so-called "frost-bite" which I have personally observed all fall into the latter group, for they have been seen in this country only and several days after onset.

Many factors besides the degree of cold to which the body, or part of the body, is exposed affect the resulting action on the organism; of these the duration of the exposure, the nature of the surrounding medium, whether conductor or non-conductor of heat, the general health of the patient, his nutrition, mental state and muscular activity, are probably the most important. Cold, dry air, many degrees below zero, produces less effect than does moist air at or near the freezing-point; still air has a far less deleterious effect than air in motion. Nansen and other Arctic explorers tell us that so long as the air is still a temperature of from − 40° C. to − 45° C. is not really disagreeable. In the presence of wind or of moisture, however, exposure to any temperature much below that with which the body is habitually in contact gives rise to objective changes. For the

purposes of description these changes may be divided into general and local.

Amongst general changes we may note alterations in the rhythm of the heart and of respiration, in the oxygen intake and carbon dioxide output, in the excretion of nitrogenous products, and in the whole metabolism of the body. The local changes, however, are those with which we as dermatologists are most concerned. The local changes are confined to exposed parts and in man usually affect the extremities, the fingers, the toes or the whole foot, the ears, the nose, and the cheeks.

From the point of view of process Marchand (5) divides these local changes into two groups: in the first group, the local changes are due to the actual freezing of soft parts, and the effects produced are a primary consequence of this freezing; in the second group, all the changes can be attributed to alterations in the vascular supply of the affected parts. The actual freezing of soft tissues rarely occurs in this climate and, so far as I have been able to ascertain, has not been seen in any of the cases of "frost-bite" amongst our troops in Flanders, nor was this effect seen amongst the combatants in the recent Balkan war. But amongst the soldiers who have been invalided from the front with the diagnosis of "frost-bite" I have seen three cases who had suffered previously, when in other parts of the world, from frost-bite due to actual freezing of an extremity or of the cheek. In the Russo-Japanese war (9), on the other hand, cases apparently of this nature were seen amongst those wounded and left on the battle-field at a time when the external temperature ranged many degrees below the freezing-point.

Local freezing of the superficial tissues causes changes which in their less severe degrees are well known to dermatologists and to surgeons who make use of solid carbon dioxide in treatment or of the ethyl chloride spray in local anæsthesia. The skin over an area, the whole ear, or even a digit can be frozen hard and show no ill-effects after thawing. Usually, however, after thawing the skin swells considerably, becomes red and covered with blisters filled with clear fluid; later a part of the skin or of the deeper tissue which has been frozen may die and separate as a dry gangrenous mass. The amount of tissue lost depends upon the duration of the action of the cold and upon the temperature reached inside the tissues. To freeze deeper

parts exposure must be much longer and the degree of cold greater than is required merely to freeze the skin. After prolonged exposure a copious necrosis results, leaving a proximal part of the frozen member which recovers. During the process of thawing the patient complains of intense, excruciating pain, with some tingling and itching; the pain gradually dies away, but the tingling and itching tend to persist for much longer periods. Healing after freezing, like that after a burn, is accompanied by an inflammatory reaction which only slowly subsides. The finer histological changes which occur after local freezing of the tissues are not definitely known; the affected cells appear swollen, their nuclei and protoplasm no longer stain readily, and the superficial sensory nerves are said to degenerate. The excruciating pain from which the patient suffers during thawing may in part be caused by this degeneration, but is more probably explained by the increased tension in the soft parts around the nerve endings, for in so far as a portion of the limb dies and becomes gangrenous it is anæsthetic, and causes no pain whatsoever.

In Marchand's second group the changes observed in soft parts after exposure to cold are due to secondary effects brought about through the vascular and lymphatic systems, and are attributed by him to ischæmia. These changes are commonly seen after exposure to small grades of cold over relatively long periods, and occur more especially if the weather has been damp or if an extremity be allowed to come into contact with cold water, ice, or snow. Minor grades of cold act primarily on the blood vessels of the exposed superficial parts; first the smaller arteries, then the smallest arteries contract, and later the larger and deeper arteries also become narrowed. The consequence of this vaso-constriction are that the skin becomes pale, and extemities of the limbs come to contain little blood; the fingers or toes are then said to be "dead" (doigt mort). If the cold is more intense or lasts longer, severe pains develop, owing to the stimulation of the nerve endings in the skin sensitive to temperature, and the movements of the digits themselves are hindered. Sooner or later this stage of vaso-constriction is followed by some degree of vaso-dilatation, and the parts become red and erythematous, or blue, livid, cyanotic, and congested. The feeling of discomfort gradually increases and feels as if it proceeded from deeper and deeper parts of the distal portion of the extremity.

If the exposure to the wet and cold, not necessarily below the freezing-point, be continued over a long period, or frequently repeated, in certain individuals living a normal life who possess a defective or enfeebled circulation, more especially in children, in those suffering from anæmia, and in those whose work and external surroundings prevent violent muscular movements, the redness and swelling increase, and an itching sensation in the affected toes, fingers, or other parts develops; this condition in which a distal part shows a more or less chronic erythema with some inflammatory reaction is called chilblain, or erythema pernio (French *engelure*, German *Frostbeule*). In these patients the superficial skin becomes raw and roughened, and in certain more susceptible individuals blistering and ulceration of the skin may occur; if this becomes infected with micro-organisms a chronic condition leading to a considerable loss of tissue may result. The changes seen in chilblains can all be explained by the local effect of cold and damp upon the vascular supply of superficial parts.

Through the prolonged action of the degrees of cold well above the freezing-point, gangrene of the whole of the distal portion of an extremity or of one or more toes or fingers may occur, probably because the arterial supply of the whole of that part has been occluded for a sufficient length of time by the contact of its superficies with a cold conductor; this condition of gangrene consequent on cold acting on the blood vessels has been termed by some German writers "frost gangrene in the absence of frost" (*cf.* Köhler (3), Lauenstein (4), and Welcker (10)), and by others "gangrene due to vascular paralysis consequent on cold" (Wieting 11). Such a condition is occasionally seen in civil life, even in this climate, in individuals who have to keep their feet for a long time exposed to the action of cold water or snow without any opportunity for active exercise. The cases of "frost-bite gangrene" which I have had the opportunity of examining all belong to this category; the temperature of the mud in which their feet were embedded had never fallen sufficiently low to allow of the actual freezing of superficial tissues, much less of the deeper portions of the foot with its muscles and bones. It is also to this second group of Marchand, where the "frost-bite" is due to vascular changes and occurs without the external temperature ever reaching the freezing-point, that all my cases of "frost-bite" showing objective manifestations on their arrival in this country have belonged.

This type of "frost-bite" comes on gradually and usually affects symmetrical parts of the feet. It is accompanied during the exposure to the low temperature by feelings of stiffness, coldness, itching, numbness, and loss of sensibility in the distal portions of the feet. In this class of case the patient never complains of the acute excruciating pains which accompany the process of thawing in the patients whose tissues have been actually frozen. The condition of the feet in my patients, whether gangrenous or merely red and œdematous, usually had only been discovered by the patient when he inspected his feet.

Besides deep mud, and at this time of the year its accompanying cold, amongst local causes for the appearance of this type of "frost-bite," mechanical agents may play some part. In the soldiers showing gangrene, whom I have seen, the feet alone have been affected, and not a single one of these had removed his boots and puttees for seventy-two hours, and several not for periods up to fourteen days, before the condition of the feet had been discovered. Boots which are comfortably large when dry tend to shrink when wet, and may impede the venous return in superficial vessels, and by pressure might even stop the circulation in the arteries. Within a few minutes or even before entering the trenches for their spell of days and nights of fighting, the boots of the majority of my patients had been soaked, and so they remained until, on their removal, the gangrene or other manifestations were discovered.

Another factor hindering the free circulation of blood through the lower extremities in the conditions under which "frost-bite" has in the main been developed is the lack of recumbency and the impracticability of active muscular movements; in all instances several days were passed in the upright or squatting posture, with no interval of recumbency and little possibility of sleep. Such postures throw a persistent strain upon the mechanisms bringing about the return of venous blood from the feet. Moreover, many of the men have complained that during their stay in the trenches their legs had been so fixed and embedded in the mud that they themselves were unable to extricate their feet, so that all voluntary movement of the legs was impossible.

Wieting (11), who served with the Turkish army, writing of his experiences in the Balkan war, noted the frequency of this class of

case and described them under the term "Gefässparalytische Kältegangrän." He states that the gangrene was almost symmetrical, affecting the toes or feet on both sides, and occurred only after exposure for hours or days in cold mud at a temperature near, but usually slightly above, the freezing-point. The first cases appeared in the month of November, when the weather was cold, wet, and windy, and the trenches were filled with cold water and deep, thick mud, but the atmospheric temperature was well above the freezing-point. The majority of the cases seen amongst the Turks were reported in November and December, when there was much trench fighting; few cases occurred in January and February, but in March, when the temperature again fell and fighting recommenced, large numbers were again reported. He observes that when the men obtained sufficient bodily exercise to keep up the circulation in their extremities, or when the army was on the march, no cases were reported. Many of Wieting's cases suffered from intestinal derangements (dysentery, cholera, and typhoid), but he himself attributed the condition, and rightly so, as our experience in Flanders has proved, to exposure, and cold, and wet. He thought that lack of care of the feet by the Turkish soldier, the tight-lacing of his boots, which were not removed for weeks together, the sitting posture in the trenches, and the persistent flexion of the legs, the underfeeding of the army, and the overuse of tobacco, besides the intestinal upset, might all be arraigned as contributory factors. Dreyer (1), Coenen, and Goldammer, who also served with the Turkish army, reached similar conclusions. Welcker (10) observed the same type of case amongst the Bulgars, and states that it also occurred amongst the Greeks, Serbs, and Montenegrins, and was inclined, wrongly as it now seems, to attribute the cases of gangrene to the intestinal derangements. In 1913 an acrimonious discussion in the *Zentralblatt für Chirurgie*, between these two sets of authors, as to the causation of the cases of gangrene of the feet which occurred during the Balkan war, is on record; certain it is that whatever other factors were at work during those campaigns wet and an atmospheric temperature near the freezing-point were essential; as soon as the temperature of the air rose cases of symmetrical gangrene no longer appeared, although the other alleged contributory factors, the tight boots, posture, diarrhœa, etc., were still present.

Among Englishmen who had experience of this class of case during the Balkan war Max Page and Appleyard (6) agree with Wieting and Dreyer and state that: "It seems probable that the gangrene was (due to) a vascular disturbance of the same nature as that occurring in frost-bite, being induced by the exposure of exhausted men to cold and wet. The dusky mottling seen on the feet of some cases with little or no gangrene exactly resembles the appearances seen after a slight frost-bite."

During the Battle of Heikoutan, which lasted from January 25th to 29th, 1905, 298 men and 2 officers of the Japanese Army were admitted to hospital suffering from "frost-bite" affecting the feet. The representatives of the English War Office (9) divided these cases into three grades of severity. In the mildest cases redness and swelling of the feet only were seen. In the moderately severe cases the feet were swollen and of a deep red or purple colour and showed numerous blisters. Whilst in the third, less numerous, group actual gangrene of some part of the foot occurred. Officers were affected proportionately less often than men. The order of frequency of lesion was great toe, little toe, and then heel. During the time that these cases were being reported the weather was moderately cold, and the feet of the fighting men constantly wet.

The exact processes at work in the causation of this type of interference with the circulation in the lower extremities are still very obscure. The essential factors in its causation appear to be prolonged exposure of the lower extremities to relatively small degrees of cold whilst encased in tight, wet boots, and kept motionless in a dependent position. It arises in apparently healthy men in the prime of life; in men who otherwise exhibit few or no tendencies to sluggishness of the peripheral circulation, and have never, for instance, suffered in childhood from chilblains. When the interference has once begun it is progressive, and in a few instances manifestations have been seen to develop after the removal of the exciting causes, whilst the patients were in hospital under almost ideal conditions. Stasis of the blood and thrombosis in the superficial vessels frequently occur and may affect the deeper vessels. In the one specimen of an amputated foot which Wieting (11) was able to procure in the Balkan war that had not become septic before its removal, the only histological changes found were ante-mortem thrombosis in the arteries and veins

and a certain amount of organisation of the intima of the thrombosed vessels.

To sum up this part of the subject, we may state that from the point of view of process this type of "frost-bite" is most readily explained on the hypothesis that it is due to changes in the lumina and walls of the blood vessels and lymphatics of the lower extremities. The prolonged abstraction of the local heat of the feet by contact with moisture, which acts as a conductor, seems to be the most essential factor in its causation; but as predisposing and aiding factors a prolonged dependent posture of the feet, the absence of the normal periodic contractions of the muscles of the lower extremities, mechanical pressure due to tight boots, lack of sleep, and the excessive use of bad tobacco must be considered to play their part. Concerning the last factor we may note that nicotine paralyses the nerve-endings of the vasomotor nerves and thus may be a factor of no small importance. As to the manner in which these ætiological factors act, whether directly upon the arteries, veins, capillaries, and lymphatics, or reflexly through the nervous system, we cannot as yet decide. But the view of Marchand and others that the condition is always of ischæmic origin adds nothing to knowledge or to the proper understanding of the ætiological factors concerned, and does not suggest precautions for its better prevention.

Objective Manifestations.

The objective manifestations seen on the arrival of the patient in this country when suffering from this type of "frost-bite," associated with vascular interferences, have varied considerably in severity from black gangrene, with death *en masse*, necessitating amputation of both feet at the tarsus or even higher, to a mere erythema and slight swelling of the great toe. The majority of patients, however, gave evidence of disease intermediate in severity between these. The first result of the action of moderate degrees of cold is, as we have already seen, upon the blood vessels supplying an area of skin with the resulting blanching or pallor of the part, so that its volume shrinks and it becomes relatively empty of blood, and to the prick of a needle or other mechanical injury yields little or no blood. This stage is followed by one of vaso-dilatation, with a relatively rapid flow of

blood and some swelling of the part, which now appears pink or red in colour. Later, the rate of the blood flow again falls, and for several days the part remains mottled, marbled, livid, blue, or congested, either generally or locally. On the toes, on the soles of the feet, and on the heels smaller or larger chilblains of ordinary appearance may develop. Toes which are blue or marbled may on admission be quite warm to the touch and then usually recover completely; if, on the other hand, they are cold and blue or leaden grey in colour, some loss of tissue will probably ensue.

With congestion of the blood vessels fluid transudes into the surrounding subcutaneous and other connective tissues and gives the part an œdematous appearance. The œdema is most obvious where the tissues are lax, and in the majority of cases, when present, is especially noteworthy on the dorsum of the anterior half of the foot; it is only slowly absorbed even after the removal of its exciting causes and after the local application of warmth, the wrapping of the foot in cotton-wool, and the raising of the whole leg on an inclined plane. Œdema is often the most noteworthy manifestation seen when the patient arrives at the Base Hospital in this country some four or more days after the onset of the "frost-bite." In cases showing considerable œdema of the feet, the arteries of the feet, at the ankle and at the hip pulsate normally.

In some patients, on the parts of the feet subjected to local pressure, blisters are formed by the transudation of fluid from the deeper tissues into the epidermis; in the milder cases these are small and contain clear fluid which clots *in vitro*. These blisters may be single or multiple, large or small. Remains of such blisters are often present on the arrival of the patient in this country.

In a certain number of these cases a transudation of blood takes place, with the formation of definite patches of purpuric hæmorrhage or of blisters containing blood. The great toe is more often affected than the other toes; the other regions commonly affected with blisters, chilblains, or hæmorrhages are the heels and the pressure points at the base of the great toe and the ball of the little toe. Hæmorrhages are also common in the region of the nail beds and wherever one nail is pressed upon by the neighbouring toe; these hæmorrhages may cause the death and separation of the whole nail.

After the hæmorrhage has persisted for some time and is undergoing

absorption, subcutaneous pigmentation and discoloration of the skin may be seen. During direct freezing of a part, hæmolysis of the red blood corpuscles takes place, but in the cases which I have observed the pigmentation was similar to that seen during the resolution of an ordinary purpura, and was probably not due to the local action of cold on the blood corpuscles. As a result of the œdema, blistering, and hæmorrhages, massive peeling of the skin and desquamation in flakes are often observed. Frequently the whole foot has a brownish hue of no practical significance, due most probably to the escape of dye from the socks or colouring matter from the leather of the boots, or occasionally as the result of treatment with iodine before the arrival of the patient in this country.

When gangrene supervenes it usually affects both feet symmetrically but unequally; unless treated with moist applications it remains as dry gangrene. In one case which I have seen, death *en masse* of the whole of both feet below the malleoli occurred, but more usually only superficial parts of the great, little, or other toes are affected. In the milder cases the gangrenous part is leaden grey in colour; in the more severe cases it is black. The necrosed tissues separate by a line of demarcation, leaving a wound which granulates readily.

Besides these objective manifestations, which may be attributed to a local affection of the blood vessels or of the lymphatics and their walls, other structures of the feet may be affected. The extensor tendons to the toes and the tendons of the peronei and tibiales muscles are often taut, with the consequence that the great toe is intensely dorsiflexed, the other toes hyper-extended, and the whole foot either grossly everted or inverted. When the tendons are taut active movements of the toes, of the anterior half of the foot, and to a less extent of the ankle are restricted in range and defective in power. Except in patients showing gangrene the joints and the sheaths of the tendons are rarely, if ever, affected, and passive movements of normal range are possible. The skin of the feet and the nails of the toes, apart from the effects of the œdema and other vascular disturbances, show few trophic changes. Intense sweating on the dorsum of the feet and on the soles occurs in certain patients who show œdema and blisters, but is unusual when these manifestations are not present. Tenderness to pressure of the trunks of the great nerves to the leg where they lie superficially and exposed, as at the lower margin of the gluteus and

at the head of the fibula, does not occur. The knee-jerks, ankle-jerks, and plantar reflexes are always obtainable; occasionally, however, in patients showing loss of sensibility there may be some difficulty in eliciting the plantar responses.

Subjective Manifestations.

If the causation of the objective signs of the type of "frost-bite" resulting from exposure to wet and moderate degrees of cold is obscure, even more so is the pathology of the subjective manifestations.

Local freezing of the tissues may be followed by degeneration of the peripheral endings of the nerves supplying the affected parts. During freezing, few or no abnormal sensations are experienced by the patient; during thawing, on the other hand, probably owing to the rise in the tension in the tissue of the thawed area which accompanies the rapid influx of blood and the inflammatory reaction, acute and excruciating pain, with the characters of visceral pain, is always a prominent feature. In cases of classical frost-bite due to the actual freezing of tissues this pain is the most characteristic symptom. After its subsidence more or less continuous sensations of an ill-defined character, said by the patient to be burning, throbbing, tingling, or itching, or to have a numb, dead, or lost character, follow; these feelings of a "something wrong" in the thawed area usually persist for some minutes, and may last for hours or even days, depending upon the severity and the depth of freezing.

In the class of case, however, of which we have seen so many examples arriving recently from the front, where the major objective manifestations appear to have a vascular origin, pains with the distracting and dominant characters of those of classical frost-bite have not occurred. Whilst actually subject to the causative conditions many of the men complained of little discomfort; others said that during this time they had felt as if their feet were becoming slowly and progressively more and more dead; first, sensation was lost in the toes, then in the anterior half of the foot, so that for a long time they felt "as if they were standing on their heels," and the front half of their feet felt "wooden." Tingling and other paræsthetic sensations had been less prominent features than an abolition of ordinary feeling in the feet, and in the

majority of my patients, until the objective condition of the feet was discovered on the removal of their boots, acute discomfort had not been present.

Feelings of coldness, deadness, numbness, tingling, itching, and burning in the toes and feet, and cramps, aches, shooting pains and gnawing sensations in the legs have all been described at one time or another as occurring during the exposure; yet on the whole, until objective signs had been observed, pains and gross discomfort in the lower extremities had not been very noteworthy. On the other hand, after the tension of battle had for a time diminished and the patients, little occupied with the enemy, were marching back to billets, all manner of sensory disturbances had been suffered.

On the arrival of the men in this country the patients could be separated on their subjective manifestations into two more or less clearly divided groups. In the first group objective manifestations—gangrene, gross œdema, hæmorrhagic blisters and the like—have been almost always well developed, and the patients have complained of few subjective symptoms. In the second group objective manifestations were slight and subjective complaints the source of much worry and mental suffering. The patients forming the first group were placid, attentive, and unperturbed, whilst those in the second group were "jumpy," emotional, and easily distracted. In the first group the patients slept well and behaved like the subjects of other traumata, whilst those forming the second slept fairly by day, but by night were restless, tossing frequently and complaining of an inability to sleep owing to the continual cropping up of ideas, thoughts, fears, and experiences filled with emotion and disagreeable feeling tone. The characters of the sensory disturbances in the two groups were different; in those with well-developed objective manifestations sensory interferences such as commonly occur in some forms of peripheral neuritis affecting the lower extremities were at times noteworthy, whilst in the second group containing the "jumpy" patients the sensory interferences seemed to be much more of the type seen in cases of the so-called general neuroses—"stocking," "sock," or "slipper" anæsthesia or hyperæsthesia. Moreover, the course of the disorder in the two groups was different; under treatment with rest and general measures the patients in the first group recovered rapidly, and the disease seemed to follow the course of any ordinary

surgical condition; whilst in the second group convalescence has been less definite and in many cases has been already prolonged over many weeks. The morbid changes underlying these sensory interferences are not known, and a certain number of patients have shown alterations in sensibility with characters belonging to both groups. The question as to whether some peripheral neuritic change was present in all cases showing this type of "frost-bite" cannot be answered with certainty, but all the subjective manifestations in the second group of patients cannot be explained by any hypothesis invoking a purely peripheral origin for the sensory interferences.

In the first group, where objective manifestations were pronounced, the patients complained of little; on testing, however, in some of of them a certain defect of sensibility was found in the recognition of the contact of light touches with cotton-wool, in the localisation of the point touched, in discriminating the two points of the compass, and in distinguishing smaller degrees of differences in temperature, but except in two cases, where there was a considerable amount of gangrene of the anterior half of the feet, the prick of a pin, deep pressure, and the duration of the recognition of the vibrations of a tuning fork (C = 128) were affected to a much smaller extent than sensations involving the distinction of the nature of peripheral stimuli. In cases showing a considerable amount of superficial gangrene sensibility was often surprisingly little affected. In no case included in this group was total anæsthesia of the whole foot discovered. In the great majority the area of altered sensibility passed gradually into areas of more normal sensibility, but in a few cases a certain amount of over-reaction was found at the proximal margin of the area of impaired sensation.

In the second group spontaneous pains were frequently complained of in the feet and ankles, and occurred also in some cases in the lower portions of the legs and even in the hands. They were described as shooting, gnawing, and aching, and were said to be constantly present, but to be intensified by movement; yet when the patient's attention was diverted he would talk freely and appear at ease. Numbness of the skin or deadness of the feet were among the frequent symptoms, and many patients described their sensations as "like walking on my heels." The patients were generally apprehensive; I have been asked by several men, many days after arrival

in this country, when gangrene was likely to supervene "because the sensation in my feet is still funny."

Accompanying these spontaneous pains and paræsthesiæ an alteration in sensibility was commonly found. Hyperæsthesia (excess of reaction to stimuli), hypæsthesia (defect of reaction to stimuli), and anæsthesia of the distal portions of the lower extremities were all observed, either separately or together. Anæsthesia or hypæsthesia, surmounted by an area of proximal hyperæsthesia, was an especially common finding.

In some cases the hyperæsthesia and general apprehensiveness of the patient was so excessive that he gave rise to a lively expression of pain when the cotton-wool in which the foot was swathed was lightly touched, or even before any contact with the cotton-wool was made. In other cases all the usual forms of stimuli used in sensory testing, including the non-potentially painful touch with cotton-wool, caused an expression of pain. Passive movements of the toes and of the anterior half of the feet in many patients were said to cause intense agony; the pain was referred both to the front and the back of the legs over the course of the tendons moving the toes. In these patients all passive movements of the toes were actively resisted.

Accompanying this hyperæsthesia, or apart from it, hypæsthesia or even total anæsthesia to all forms of stimuli over some portion of the foot was extremely common. Frequently, proximal of the area showing a defect of sensibility, a zone of hypersensibility and over-reaction was present. When anæsthesia was discovered the area which was totally anæsthetic, and from which no responses to the prick of a pin was elicited, had, in the vast majority of cases, a sharply defined linear upper margin, and conformed with the "stocking," "sock" or "slipper" areas so frequently mapped out in functional nervous disease. Where hypæsthesia only was found the patient, whilst able to appreciate that a something had been in contact with the skin over the distal portion of his lower extremity, was unable to tell whether the stimulus applied was a simple contact, a pointed object, rough or smooth, painful or painless, hot or cold, large or small, and often said that the point of a pin felt "less sharp," "less definite," "less painful" than over normal areas. In these patients who showed a diminution in sensibility and at the same time

were "jumpy" the responses to all forms of sensory stimuli—the prick of a pin, the light touches with cotton-wool, the vibrations of a large tuning-fork, the hot and cold tubes—were affected equally and over identical areas. Yet to any form of stimulus the line of change in sensibility was not absolutely fixed, and could be usually shifted progressively distalwards during any prolonged examination. This defect in sensibility, therefore, could not depend on a peripheral cause, for in patients suffering from peripheral neuritis the area deliminated as showing altered sensibility retains almost constant soft borders over periods measured in days; in peripheral neuritis, too, all forms of sensibility are not affected together and over identical areas. Moreover, in eight cases out of fifty-two, which I have included in this group, similar sensory interferences giving rise to "glove" or "mitten" alterations in the sensibility of the hands were discovered, although no history of the occurrence of gross objective changes in the hands was obtained, and their appearance was normal.

Thus we see that in recent times the term "frost-bite" has been applied to three different groups of disorders which come up for treatment after exposure to abnormally low grades of temperature:

(1) Classical frost-bite due to the actual freezing of soft tissues.

(2) A series of conditions characterised chiefly by local interferences with the circulation of the blood and lymph in the distal portions of the lower extremities.

(3) A general neurosis in which the functional disturbances are referred to parts of the body which have suffered excessive exposure.

In order that classical frost-bite may result, the temperature of the surrounding media must fall considerably below that of the freezing-point of water, and sufficient heat must be rapidly abstracted from an acral part to allow of the actual freezing of soft tissues with consequent cellular death; this condition comes on rapidly, and during thawing the patient complains of intense local pain in the affected part. In the second group of cases, of which we have seen so many examples amongst those invalided home from the British Expeditionary Force, the ætiological factors at work seem to have been continued exposure to a temperature in the neighbourhood of, but usually above, the freezing-point, together with some arrangement such as the presence of moisture, which enables the continuous slow conduction away of heat from the distal portions of the lower extremities to take

place. Whilst in the third group continuous exposure, fatigue, lack of sleep, disorganisation of the routine of life, and general apprehensiveness have been complicated by the local effects of cold and wet on the lower extremities, with the consequence that in subsequent neurosis the objects of complaint were parts of the body on which local stress had fallen. The inclusion of these three types of disorder under the single term of "frost-bite" seems to me unfortunate, for the treatment indicated, the course of the disease, and the eventual prognosis is for each group characteristic.

After the local freezing of a part of the body the best treatment at first is friction with snow or cold water, and experience has shown that it is inadvisable to allow the patient to enter a warm atmosphere immediately after it is discovered that he has been frost-bitten. Friction with turpentine and oil, or with spirit and soap liniment is a useful remedy in the early stages. The subsequent treatment should be directed to keeping the affected part dry, warm and aseptic as described recently by Mayo Robson (8). In the second group of cases not only the ætiology, but also the whole course of the disease differs widely from that which follows actual freezing, and here preventive methods are more likely to avail than in the first group. On the arrival in this country of the patients forming this group, measures directed towards the facilitation of the absorption of the œdema and other products of vascular derangement, as well as dryness and aseptic precautions, are useful. Healing takes place in this class of patient much more rapidly and more completely than in the first, and operative measures are only indicated when some secondary infection with micro-organisms has occurred. The lower limbs should be wrapped in wool, raised on some form of inclined plane, and either powdered with some simple dusting material, such as zinc oxide and boracic acid, dermatol, or iodoform, or painted with 2 per cent. solution of iodine in spirit. For the first few days local pressure must, as far as possible, be prevented. Active movements of the feet and legs should be encouraged in order to increase the vascularity of the feet, and, if the skin is unbroken or has already healed, light massage applied. Mild applications of hot air often relieve the pain, and treatment with static electricity is often grateful to the patient.

In both the second and third groups the patients should be

encouraged to move their feet as soon as possible; they should also be informed immediately that the condition from which they are suffering has nothing to do with the frost-bite of which they have heard so much and seen so little, and know to occur amongst Arctic and Antarctic explorers, and people living on snow-clad mountains, and in cold climates. On their arrival in this country they should also be told that, seeing several days have now passed since the removal of the exciting causes, despite any discomfort which they may receive from their feet, gangrene and loss of their toes is not likely to supervene.

In the third group of patients, on the other hand, treatment should be directed towards the general condition of the patient and to his mental outlook, and not solely towards the relief of his subjective complaints concerning the affected parts. Isolation in this type of case is of great value, and massage by a masseuse, who can help to relieve his self-centring and give him the necessary outlook of hope and assurance, is extremely valuable. In this class of case graduated and daily increasing exercises for the lower extremities are indicated.

"Frost-bite occurring in the absence of frost" rarely leads to much loss of tissue. The feet heal completely if gangrene does not occur. After the disappearance of the objective manifestations in my second group the patient is fully recovered and may be considered for the future a normal, healthy man. In the third group, however, convalescence is uncertain, and if, after an apparently complete recovery, conditions of stress and exposure be renewed a relapse in symptoms is probable; patients included in this group, therefore, should not be sent back to the fighting line.

Prophylaxis.

The explicit and detailed Army Routine Orders, November 23rd, 1914, "353. Frost-bite, Precautions against," quoted by Major Mayo Robson (8), contain the measures adopted by our Royal Army Medical Service to combat the ætiological factors against the types of "frost-bite" included in my second and third groups. Owing to the physical conformation of the area in which the greater part of the British Army has been fighting of late, postural causes, wet, cold, and lack

of sleep could not have been prevented. In 1905 each member of the Japanese Army was provided with a water-proof ointment consisting of camphor, white wax and vaseline, or of white wax and linseed oil, which gave satisfactory results (9). In a recent number of the *Lancet* Sir R. Douglas Powell (7) has advocated the use of an ointment containing 5 per cent. of eucalyptus oil made up in a basis of suet fat, purified and camphorated. All use of the terms "frost-bite" or "frozen feet" in the presence of soldiers should be avoided, and the long-continued dependent position of the feet should, as far as possible, be prevented (2).

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(8) Mayo Robson.—*Lancet*, 1915, i, p. 117. "Frost-bite."

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Note.—Since this article went to press a short account of Larrey's observations, published in 1812, on the cases of "frost-bite" which occurred amongst the French army during the Napoleonic wars, has appeared in the *British Medical Journal*, 1915, i, p. 265.

LYMPHADENOMA WITH CUTANEOUS LESIONS.

By W. KNOWSLEY SIBLEY, M.D.

The patient was a boy, aged 16 years, who was stated to have had an eruption on the body since he was eight years old, and which had become much worse the last three years. There was nothing to note in the family history; both parents, two brothers and four sisters, were living and well.

When he first came under observation in July, 1914, the patient was anæmic and obviously ill. The temperature varied at night from 100° to 101° F. and was usually subnormal in the morning. His voice was hoarse, and he had a slight cough with expectoration. No physical signs could be detected in the chest, nor were tubercle bacilli present in the sputum. The von Pirquet and the Wassermann reactions were both negative. Considerable œdema of the legs had been present for two or three weeks. The urine was very thick, highly coloured and contained albumen, a few pus cells, red and white corpuscles, together with staphylococci and some coarse granular casts. No tubercle bacilli were to be detected, nor were sugar or bile present in the urine. There was a general enlargement of the superficial lymphatic glands all over the body, especially marked in the groins, axillæ, and neck. Two years previously a large one in the left groin had broken down and discharged freely for about a fortnight, for which he had been in a hospital.

The differential leucocyte count at this time was practically normal and was as follows: Polymorphonuclear cells, 65 per cent.; lymphocytes, 30 per cent.; eosinophiles, 2 per cent.

An extensive papular eruption was present over the greater part of the body and limbs. Most of the lesions were raised, oval or round, and very firm to the touch, being of a distinctly tumour-like formation. The colour of the papules varied from rose to red; many had a semi-translucent, yellow-reddish, waxy appearance. The rash was present almost everywhere; the exception being the sternum in front, and the interscapular regions behind; the rash was not very abundant on the legs, and was absent from the scalp. It was most abundant on the back of the neck, where the skin was generally thickened and infiltrated and lay in distinct folds. The arms,

forearms, and backs of the hands were covered with papules, the whole skin being deeply infiltrated. The scrotum and penis were also extensively involved. The cheeks themselves were free from eruption, but papules, rather paler in colour than those over the body and limbs, were present on the forehead, eyelids, ears, bridge and sides of the nose, and extended in a line down the outer angles of the mouth on to the sides of the chin, more or less in the form of a triangle, with its base across the chin, the upper lip being unaffected, The whole features presented a distinctly leonine appearance.

No eruption was present in the axillæ or popliteal spaces. The palms and soles were distinctly thickened, and the hair follicles over the dorsum of the fingers were prominent.

The teeth were good, and the nails were unaffected, so also were the mucous membranes.

The whole condition had apparently been recently complicated by a rather severe attack of impetigo, affecting especially the hands, forearms, and legs. This had presumably been produced from scratching, the lesions being often irritable at night.

November 1st: Since the previous notes were made the eruption had in most parts increased and become more prominent, and now covered the sternal and the interscapular regions, and the skin over the whole body had become more infiltrated. The tumour-like formations at the back of the neck had increased considerably in size, and one on each side was now as large as a Tangerine orange. Some small nodules had also appeared on the occipital region of the scalp.

The papules on the face, if anything, were rather less marked, but over all the other regions of the body the eruption had increased. The skin was not now irritable during the day, but became so at night. There were no scratch marks, however, present. The liver and spleen could both be felt, below the costal arch.

A differential leucocyte count now gave polymorphonuclear cells, 34·159 per cent.; lymphocytes, 32·3 per cent.; eosinophiles, 31·85 per cent.; basophiles, 1·76 per cent.

The hæmocytometer count was: Red blood cells, 4,750,000 per c.mm.; white cells, 25,600 per c.mm.

The œdema of the legs had subsided, and there had not been any recurrence of an impetiginous or bullous eruption.

The boy was now obviously more anæmic and was losing ground,

but his temperature was more or less normal. The urine contained a trace of albumen; the specific gravity was 1030; sugar, blood, and pus were absent. The deposit contained crystals of sodium urate and calcium oxalate, and some squamous epithelium, but casts were not found.

The mucous membranes continued free from lesions, but the hoarseness was still present, and the laryngoscopical examination by Mr. de Santi gave the following result: The naso-pharynx showed some thickening of the post-nasal lymphatic tissue: this was also slightly noticeable in the pharynx as well. The larynx showed marked pinkiness of the right true vocal cord, with a lesser degree of the left one. There was some thickening of the interarytænoid region. The movements of the cords were quite free, the approximation of the vocal cords on phonation was not quite complete, a slight space being noticeable in their middle region.

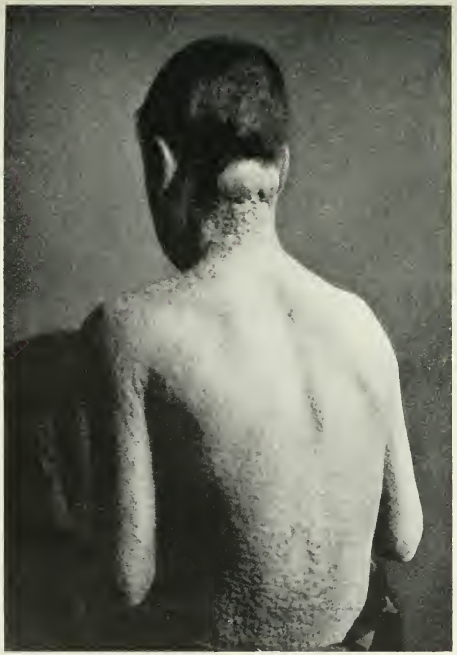
Report of the Pathological Committee of the Dermatological Section of the Royal Society of Medicine.

A meeting was held on October 2nd, 1914, Dr. James Galloway in the chair. Dr. Sibley's patient was present and was examined.

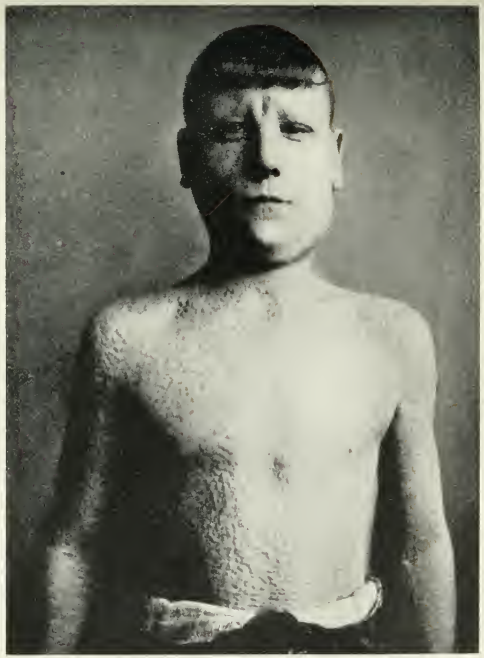
The account of the patient's case as published in the Journal was read, and microscopical preparations showing the skin-tumours in his case were examined. It was felt to be desirable to obtain further information respecting this case, and Dr. Sibley arranged that one of the lymphatic glands in the axilla should be excised for microscopical examination, and that a further examination of the patient's blood should be made. Dr. Whitfield and Mr. McDonagh were asked to examine the microscopic specimens of the skin already prepared and the new material to be obtained from Dr. Sibley and to report in due course to the Committee.

A second meeting was held on December 3rd, and careful reports were read by Dr. Whitfield and Mr. McDonagh on the microscopic material submitted to them for examination.

Dr. Whitfield's report discussed critically the microscopic appearances, and was based chiefly upon the structure of the lymphatic gland which had been excised, and from which microscopic preparations had been made by Mr. McDonagh. The conclusion of his report is to the effect that the whole picture strongly resembles that



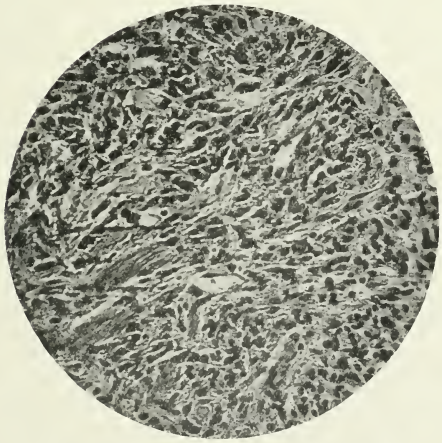
Posterior view, showing general distribution of the eruption and the tumour-like lesions in the occipital region.



Anterior view, showing general distribution of the eruption and enlargement of lymphatic glands under the jaw and sides of the neck.

TO ILLUSTRATE DR. SIBLEY'S CASE OF LYMPHADENOMA WITH CUTANEOUS LESIONS.

Epidermis more or less normal. Dilatation of blood-vessels in the dermis. $\frac{2}{3}$ objective.



Proliferation of endothelial cells. $\frac{1}{6}$ objective.

Section of nodule.

TO ILLUSTRATE DR. SIBLEY'S CASE OF LYMPHADENOMA WITH CUTANEOUS LESIONS.

of the lymphatic gland in *lymphadenoma* as described and figured by Dr. Andrewes. The presence or absence of eosinophil cells in the infiltration could not be decided, as the material had not been stained for the purpose of demonstrating these structures. Dr. Whitfield concluded that the case of disease under discussion was one of lymphadenoma with miliary growths in the skin.

Mr. McDonagh's report also discussed critically the histological appearances, both of the skin and especially of the lymphatic gland which had been examined. He compared the sections of both the skin and the lymphatic gland with Fig. 11 of his recent paper in the *British Journal of Dermatology* on "The Rôle played by the Lymphocyte." He concludes that "the endothelial cell is the cell attacked; consequently there is a great multiplication of them, and owing to their great desire to increase, as shown by being multinucleated, they are unable to generate lymphocytes. The few lymphocytes formed will also be degenerated; hence they fail in their characteristic lipoid-globulin envelope, and consist of irregular masses of nuclein." Mr. McDonagh concluded from the histological appearances that the condition was one of leukæmic cutaneous lymphocytoma of the endothelial cell type, and that the prognosis of the case would be bad.

The report of the blood examination supplied by Dr. Sibley was then discussed.

As it was considered advisable that an independent examination of the blood should be made, Dr. Galloway arranged that the patient should be sent to Charing Cross Hospital, and that the blood should be examined by Dr. Topley, Clinical Pathologist to the Charing Cross Hospital. Dr. Topley's report is now submitted:

	"December 31st, 1914.
"Red blood cells	4,700,000 per c.mm.
Hæmoglobin	62 per cent.
Colour index	0·66
Leucocytes	28,140 per c.mm.
Polymorphonuclears	35·2 per cent.
Small lymphocytes	15·4 „
Large lymphocytes	6·0 „
Large hyalines	3·6 „
Eosinophils	39·6 „
Basophils	0·2 „

The stained red cells show nothing abnormal."

Dr. Galloway's comment on the new blood count is as follows:

There is distinct leucocytosis, but not sufficient in amount to form the diagnosis of leukæmia, nor is the character of the leucocytes suggestive of this disease. The blood, however, shows a very remarkable number of eosinophil (oxyphil) leucocytes. The blood slides show a remarkable picture of eosinophilia. The basophils (mast cells) are almost absent. The eosinophilia may very well be associated with the marked chronic inflammatory skin-change present in this patient, and may fall into the same category as the eosinophilia present in other forms of chronic dermatitis, such as in certain pemphigoid conditions. There is clearly a marked leucocytosis, but it is possible that the chronic dermatitis may be sufficient to produce this condition.

After a further discussion at a meeting held on January 11th, the following statement of the conclusions arrived at by the Committee was agreed upon:

The evidence submitted, both from the clinical and from the histological points of view, seems to be in favour of the diagnosis of lymphadenoma with glandular and cutaneous lesions. It is agreed that the diagnosis of lymphadenoma must be made with the full recognition of the obscure origin of this affection, and also of the insidious nature of the onset of leukæmia of the "lymphatic" type.

Note by Dr. Sibley, January 30th, 1915.—The patient has been taking arsenic internally, and I have administered full pastille doses of X-rays to the tumours over the occipital region, the glands in the sides of the neck, to that in the left groin, and to the skin in some areas.

During last month the boy had a severe attack of Herpes zoster gangrenosa, preceded by considerable neuralgic pain over the left lower ribs. The eruption of this has disappeared and left deep scarring where it existed. He has also from time to time complained of pain in the distribution of the median nerves, which has disappeared on stopping the arsenic for a day or two. At the present time he is taking twelve drops of liquor arsenicalis three times a day, after food.

There is a very considerable improvement in his general condition, and the skin-lesions are much less marked, though the actual local appearances vary considerably almost from day to day, certainly from

week to week. The tumour-like formations at the back of the neck have completely disappeared, and all the enlarged glands which have been treated with X-rays have considerably decreased in size.

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held on Thursday, January 21st, 1915, Dr. J. J. Pringle, President of the Section, in the Chair.

The President said he had pleasure in announcing that at the May meeting of the Section a debate would be held on the subject of "Pemphigoid Eruptions." Dr. MacLeod had undertaken to open the discussion. The Annual Dinner of the Section would be held the same evening, and would be on the same lines as that of last year.

Pathological Committee's Report on Dr. Sibley's Case.—The Hon. Secretary (Dr. Dore) read an abstract of this Report (*vide* p. 54), and the President intimated that the full report was available for any member who wished to peruse it.

The President (Dr. J. J. Pringle) said he wished, in the name of the Section, to thank the whole of the Pathological Committee for the extreme care with which they had investigated this very difficult case; and especially Dr. Whitfield and Mr. McDonagh for their exceedingly valuable and elaborate reports upon it, which must have involved very much labour on their part.

Dr. Knowsley Sibley desired to endorse cordially the President's appreciative remarks concerning the labours of the Committee on his case. Their elaborate report was of great interest not only to himself, but to every member of the Section, and he personally was very grateful for the trouble they had taken.

Dr. J. J. Pringle showed a case of *Pemphigus vegetans*. The patient, a man, aged 28 years, was a private in the Territorial Army. He previously had been employed as a labourer in dye-works. He was first seen by the exhibitor on November 26th, 1914, in one of the London military hospitals, and the gravity of his condition being recognised, he was removed the following day to the Middlesex Hospital. The disease for which he was shown apparently began in the end of September, when his skin was said to have been chafed by his "identity disc" over the left side of the upper part of the chest and in the left armpit. Large blisters had formed there, and had subsequently appeared with great rapidity over other parts of his body. The history as to the date of development of the lesions in the mouth was vague, but there could be no doubt that they

appeared very early in the course of the disease, as they were striking elements in the case when he was first seen.

The initial lesions were all bullæ, varying in size from a pea to a hen's egg, or large excoriated and discharging surfaces obviously resulting from the rupture of bullæ. The bullæ and excoriations were present in greatest abundance in the axillæ and bends of the elbows, over the lower part of the face, behind the ears and over the back, and particularly large blebs were present over both buttocks. These arose abruptly from healthy skin, and there was no trace of herpetiform grouping anywhere. The distribution presented no marked symmetry, except in the armpits and bends of the elbows, and there was a conspicuous absence of blebs in the inguinal regions. The contents of all the bullæ were purulent. There were three large blebs on the right thigh and leg, but the left thigh and leg were absolutely free from disease and had remained so throughout. There was one large bleb on the very long prepuce and marked erosion of its mucous lining and of the glans penis. The lips and inside of the mouth were very conspicuously involved, blebs and deep erosions being present over both the hard and soft palate and on the tongue and buccal mucous membrane, and some were observed even in the nostrils and on the conjunctivæ. The breath was horribly fœtid. Owing to pain the patient articulated and swallowed with extreme difficulty, so that he could only be fed upon liquids.

When first observed, the contents of all the bullæ were purulent, and throughout the case the early invasion of the essential lesions by staphylococci—certainly within three hours after their appearance—had been very striking, and probably accounted for the markedly septic temperature. On December 8th, however, for the first time a few small, quite fresh blebs with clear contents had been discovered on the front of the chest, serum cultures from which were absolutely sterile. The Wassermann reaction had been frankly negative throughout, and no growth had occurred in blood cultures after six days at 37° C. Agar cultures from the excoriations had yielded staphylococci, a diphtheroid bacillus and abundant *Bacillus proteus*. The blood picture had been practically normal throughout, and it was especially to be observed that there had been no eosinophilia. The examination of the urine was also negative, giving no evidence of acidosis or of intestinal toxæmia. It contained no albumin, or sugar,

or aceto-acetic acid, and no abnormal amount of indican or of phenols. There was no bacilluria. The bowels had been fairly regular throughout, but the motions were horribly fœtid.

The patient remained extremely ill till Christmas, his condition having been aggravated by a sharp attack of influenza; but since the New Year a remarkable improvement both in the local and general condition had occurred, which permitted of his being brought from the hospital and exhibited. Only a few abortive vesicles had developed during the preceding three weeks, and the huge erosions formerly present over his back, neck, and chest had healed up, although the epidermis which had formed over them was extremely delicate, and separated off with great facility if any portion of the dressing adhered, generally to reform again rapidly. There was no trace of scaring at any point. He had gained nearly a stone in weight, his general condition had improved out of all recognition. His temperature, however, was still abnormally high and maintained the same septic type and to the same degree as during the earlier stages of his illness. Ever since the subsidence of the bullæ in the axillæ, the skin of these regions had presented a pronounced condition of vegetative dermatitis—or condylomatosis—which justified the connotation of the case as one of Pemphigus vegetans; and the early and severe implication of mucous membranes accorded with general experience of the type of disease thus designated. Although the progress of the case under treatment had hitherto been exceptionally favourable, it must not be forgotten that a few cases of recovery, or at all events of marked temporary amelioration, had been reported by competent observers, and the patient's comparative temporary *bien-être* might merely be an intermission in the course of a tragically lethal disease.

Finally, the exhibitor desired to draw especial attention to the treatment he had adopted. Since December 17th the case had been treated by weekly injections of a mixed vaccine (prepared by Dr. Carl Browning) of *Staphylococcus albus* from his blebs, of his *Bacillus proteus*, and of four coliform bacilli isolated from his fæces. At the same time he had had prolonged starch-cyllin-boric antiseptic baths, followed by the swabbing of all the chiefly affected parts with peroxide of hydrogen lotion, and the free application of a thin zinc-ichthyol cream. It is worthy of note that his improvement had been

coincident also with the nightly administration of 5 grs. of the compound soap pill, a remedy which was recommended by Sir Jonathan Hutchinson, Dr. Liveing, and many of the older British dermatologists in similar cases. The relative amount of credit to be apportioned to these measures could not be accurately gauged, but much of the patient's comfort and well-being was, doubtless, directly attributable to the assiduity with which he had been nursed.

Dr. G. Pernet agreed with the President's diagnosis, although the case differed in the great improvement which had occurred from those he had seen —his own and the late Radcliffe-Crocker's—all of which died. One case was treated with vaccines, but death occurred in a few months. He asked if Dr. Pringle attributed the improvement in this case to the vaccines—*i.e.* if up to the time of starting the vaccines the patient was not doing well as the result of general antiseptic treatment and good nursing. In a fatal case of which he published full particulars in Boeck's *Festschrift*,[1] vaccines seemed to help at first, but the ultimate results were *nil*. The prognosis of Pemphigus vegetans he regarded as always gloomy. It was unusual for one limb to escape the disease, as was the case with the left leg in this patient, and it would be interesting to know whether he had had an injury to that leg. A nerve injury might modify the amount of eruption.

Dr. Whitfield said there appeared to be two types of Pemphigus vegetans varying in their degrees of severity. He had at present the first case of typical Pemphigus vegetans which had ever been under his care, although he had seen some instances in consultation, and exhibited at societies. His case was almost entirely a mass of vegetation; indeed, bullous lesions were very scanty. About May last there were severe bullous erosions at the back of the mouth. The diagnosis of pyorrhœa had been made, and the back teeth had been removed, but of course instead of improving matters it aggravated them. Two or three months later, the man was attacked with what his doctor called "pruritus ani," but there were no bullæ on the body. The whole perineal and sacro-inguinal region formed, however, a mass of peculiar bluish-grey condylomatous-looking material. He admitted the patient to hospital as soon as possible, and he had developed one group of clear vesicles on his thigh, from which cultivations had been made. There had been some lesions in the left eye, and very severe bullous lesions inside the nose. The vegetative lesions, however, were not simply overgrown tissue. He found in portions removed by biopsy that there were bullæ even at the base of these vegetations. Cultivation of the only group of bullæ showed merely staphylococci and streptococci. Two cultivations of the blood and of the urine, and the Wassermann test, were all negative, and the cerebro-spinal fluid was normal. He had, therefore, come to the end of his resources as to the cause. In reply to Dr. Pernet, the withdrawal of cerebro-spinal fluid for examination made no difference to the patient; he had been carefully watched for any effects of the procedure.

[1] Pernet, "A Case of Pemphigus Vegetans treated on General Lines and by Means of Vaccines," *Arch. f. Derm. u. Syph.*, 1911, cx, pp. 509–526.

Dr. Sequeira agreed that there could be two types of this disease. He had under his care a case of the mild type, in which the lesions began as blebs. The patient was sent to him by Dr. Corner, of Mile End, and she had a large number of vegetations in the flexures, as well as bullæ. He took a gloomy view of her case. She was placed in the septic ward, and given large doses of arsenic, and antiseptic dressings were applied. Recovery ensued, and the patient passed out of his care. Her stay in hospital extended over several months. Cases had been recorded in which the lesions seemed to be more related to Dermatitis herpetiformis than to those of true pemphigus.

Dr. MacLeod agreed with Dr. Whitfield's remark that possibly there was a mild and severe type included under the heading Pemphigus vegetans. The point that struck him most about the condition was the fact that in nearly every investigation which had been made of the early vesicles the contents had been found to be sterile, though they rapidly became contaminated with ordinary skin cocci. He considered that the vegetations were probably the result of secondary staphylococcic infection.

Dr. Gray said he had had a case which might possibly belong to this group, that of a girl, who was in a surgical ward at University College Hospital with a psoas abscess. She had been in for about a year, with an open sinus. She also suffered from psoriasis, and had been under arsenic for five or six months in hospital. One day she developed some bullæ on the front of both wrists, and a few days later in both axillæ and then in both groins. They increased in size, then burst, leaving large fungating areas, which discharged freely. Some small bullæ also appeared in one or two of the psoriasis patches; otherwise they were limited to the regions named. The arsenic was discontinued, as he thought it might have been responsible for the lesions, which were then treated antiseptically. The condition cleared up in about a month. So far as he knew, she had no recurrence. He did not know how to classify the disease.

The President (in reply) said that cases of Pemphigus vegetans undoubtedly varied widely in their degrees of severity. Cases of comparatively mild type certainly occurred, and probably the reported cases of recovery were authenticated by fact. The four cases which had previous to the present one been under his care had all died in from six to eight months. In one of them, a young man (whom Dr. Whitfield would remember), the bullæ were confined to the throat and mouth for fully three months before they appeared on the lips and face. In answer to a question by Dr. Parkes Weber, he said that arsenic had been given in full doses when patient first came under treatment, but it was discontinued as it seemed to cause diarrhœa, and the vaccine treatment was then substituted. He shared Dr. MacLeod's view that the vegetations were the result of secondary staphylococcic infection. There was no history or evidence of nerve injury to the thigh which would account for its immunity from eruption. Finally he repeated his statement that he was unable to commit himself to any definite opinion as to the relative value of the vaccine, as compared with the other methods of treatment employed, and his impression that the temporary improvement which was manifest was, nevertheless, probably illusory.

Dr. George Pernet showed a case of *Lupus erythematosus*. The patient was a man, aged 53 years, in whom the disease had com-

menced six months previously in front of the left ear. Three months later the end of the nose became involved. In front of the left ear there was a semicircular lesion with its convexity directed towards the cheek, and it consisted of a well defined narrow border, within which there was superficial atrophy. The ear itself was also affected. There was no similar symmetrical lesion on the right side, but the right ear showed signs of slight involvement. The end of the nose was reddened, with markedly accentuated sebaceous plugs, and when the patient was first seen the tip of the nose was occupied by a soft, moist crusting, which, when removed, showed gaping sebaceous orifices beneath. The patient was otherwise healthy, and it was not possible to discover any source of toxic trouble. There had been some history of exposure lately, as the patient had been riding on the tops of omnibuses. There was no history of phthisis in the family. The case was shown on account of the rather later age than usual and the asymmetry. He had improved on salicin internally and a calamine lotion locally.

Dr. H. W. Barber showed a case of *Pityriasis rubra pilaris associated with pregnancy*. The patient's age was 43 years. At the time of demonstration she was seven months pregnant, this being her seventh pregnancy. She had never previously had any skin trouble. There was no evidence of tuberculosis in the family, nor did she present any symptoms of such infection herself; a von Pirquet reaction had not yet been done. She stated that she had first noticed the eruption on her chest about two months ago, and that a week later she observed that the skin of her feet and hands had become hard and thickened. At the same time the skin of her face and neck began to feel dry and hot. Her general health had been good.

On examination the skin of the intermammary area was seen to be covered with raised follicular papules, in the centres of which dark horny plugs could be seen. Though most numerous in the area indicated, these papules were also present on the rest of the trunk and the upper parts of the arms. The skin of the hands and feet was much thickened and of a dark brown colour; the finer lines had been replaced by deep, coarse fissures. Her scalp was covered with thick, whitish scales. The face and neck were reddened and scaly; this condition was particularly well seen round the ears. The nails were not affected.

The case seemed to be a fairly typical one of Pityriasis rubra pilaris, the chief points of interest being the advanced age of the patient and the association with pregnancy.

The PRESIDENT said the diagnosis was not, in his opinion, open to doubt, but the case was exceptional in regard to its limitations to certain regions, the disease in his experience being usually more extensive in area. He did not think there was anything more than a fortuitous association with pregnancy. Pityriasis rubra pilaris was a very rare disease, whereas pregnancy was a very common condition. He hoped Dr. Barber would be able to show microscopic sections from the lesions in view of recent divergent views about them having recently been expressed at the Section.

Dr. WHITFIELD said he had not seen this disease in a pregnant woman before; he regarded the association as a mere coincidence.

Dr. PERNET said he thought it possible that there might be a connection between the eruption and the pregnancy. The ætiology of Pityriasis rubra pilaris was not known, and the rashes of pregnancy were very multiform.

Dr. J. H. SEQUEIRA showed a case of *dry gangrene of the toes* in a male child, aged 16 months. The mother died four months ago in an infirmary from pulmonary tuberculosis, and the child had been much neglected. It was stated that there had been no previous illness, that the child had begun to walk when aged 11 months, but that since the toes had been affected he had not attempted to do so. Dentition had proceeded normally. There was nothing in the history to suggest exposure to cold, traumatism, or any obvious cause of the condition. The Wassermann reaction, which *has been examined* since the child was shown at the meeting, was *negative*.

When the patient was admitted to the London Hospital the following lesions were present: On the left foot the little toe was affected with dry gangrene at its extremity, and chiefly on the plantar surface to $\frac{1}{6}$ in. below the distal margin of the nail. On the right foot the big toe presented a small area of dead black skin on the plantar surface. On the middle toe the area of gangrene extended from the end of the toe to one half the length of the nail. On the little toe there was a patch of gangrene involving the pad at the end. The areas of gangrene were black, quite dry, and separation had taken place on the left little toe, leaving a healed surface. There was no evidence of acro-asphyxia, and the skin immediately adjacent to the black patches was of normal colour. The skin elsewhere presented no abnormality. The fingers and the auricles were

unaffected. There was no evidence of visceral disease. The child had put on flesh during the short time he had been in hospital, and was apparently in good general health; he had slept and taken food well. The parts had been kept warm by woollen socks and cotton-wool, but no other treatment had been necessary.

The exhibitor stated that neither at the London Hospital nor at the North-Eastern Hospital for Children had he seen terminal gangrene in an infant, and invited suggestions as to the possible cause. He regretted that the circumstances under which the child had been living prevented his giving a detailed account of the condition in its earlier stages.

The PRESIDENT said he had not the least idea of the cause of the condition in so young a child. He assumed from Dr. Sequeira's account that there was no local asphyxia, such as that met with in Raynaud's disease, or other evidences of that condition.

Dr. PERNET said he had not previously seen a case of this kind in a child, but what occurred to his mind was the symmetrical gangrene of the extremities of Raynaud. In seeking for an ætiological factor, he noticed that the child's nose was depressed and the forehead prominent, so that the possibility of congenital syphilis should be entertained.

Dr. F. PARKES WEBER asked whether at the commencement the cyanosis was more extensive than corresponded with the final gangrene, only the worst parts becoming gangrenous. If so, he thought that it probably belonged to the group of Raynaud's disease in children, many of which cases were believed to be connected with congenital syphilis. In a few of the cases there were likewise attacks of paroxysmal hæmoglobinuria, which in adults might occasionally be connected with acquired syphilis, also with malaria. Some of the cases clinically classed as Raynaud's disease were possibly really due to syphilis or malaria, or to both combined, the vascular spasm occurring as a temporary condition—at the commencement of an attack—and perhaps never recurring after the onset of the distal necroses.

Dr. DOUGLAS HEATH said the case appeared to him to be more like the necrosis found as the result of disease of peripheral blood-vessels in adults than the result of cold. In his experience, when there were broken chilblains and frost-bites it was the dorsum of the toes which was involved, and similarly the dorsum of the fingers. The occurrence of an end-necrosis favoured its being due to arterial disease. He thought it quite likely that there was a congenital syphilitic element in this case.

Dr. WHITFIELD said he was not familiar with Raynaud's disease at this age, but at present there was no blueness or cyanosis at all. He had had under his care one or two cases of Raynaud's disease, and when they were not actually in the paroxysmal stage they remained with very blue hands. This child seemed to have a good circulation. With regard to the site of the gangrene, the child might have tried to walk on cold slabs, and then the tips of the toes would be in

contact with the cold surface. But he thought there was something more about the case than simple exposure.

Dr. Sequeira also showed ova of *Hæmatopinus suis*. The ova were large brownish-black "nits," attached by a collagenous collar to a bristle from a hair-brush. Dr. A. E. Shipley, F.R.S., had kindly examined the specimen and recognised the ova as those of the *Hæmatopinus suis*—the common pig-louse. The nits were much larger than those of the human head-louse, and had lost their opercula. The parasite did not attack the human subject. Dr. Sequeira was indebted to Lieut. A. C. Palmer, R.A.M.C., F.R.C.S., for the specimen.

Dr. Alfred Eddowes showed a case of *Erythema gyratum recurrens*. The patient was a girl, aged 5 years, of strumous type. The lesions a week previous to exhibition were round, saucer shaped, or perhaps better described as resembling a hot-water plate, the centres being concave, the edges raised quite ¼ in., the sides abruptly ending in the normal skin. The skin of the general surface was thin and the patient was poorly nourished. This was the sixth attack in two years. Each attack had lasted about three months. One or both eyes generally suffered. Now it was the left that was affected. The mouth is slightly involved also. Such a definite type was rare. In Crocker's Atlas there was a good drawing and description of such a case, and there was also a good picture of it in the Sydenham Society's plates. The lesions, which were very striking, were usually few in number and tended to appear symmetrically; much of their typical appearance, so distinct a week previously, had changed already. Willis spoke of Erythema annulare as a common form. It could not be that he had this type in mind when he penned that statement.

Dr. J. M. H. MacLeod showed a case of *ringworm of the hand*. The patient, a middle-aged woman, presented a patch of eczematoid ringworm on the palm of the right hand, occupying an area about the size of a five-shilling piece, commencing between the first and second fingers, and spreading out in a ringed fashion over the palm. The patch was smooth, pinkish-red, broken up by an inner concentric ring, and limited by a border of exfoliating epidermis. The woman had come to the Victoria Hospital for Children with three children,

all suffering from microsporon ringworm of the scalp, and it was presumed that they were the source of the infection. Though cases of eczematoid ringworm, due to the *Epidermophyton inguinale*, were by no means uncommon, the infection of the adult by microsporon ringworm was exceedingly rare, and the exhibitor could only recollect three such cases in his hospital practice. An examination of a piece of the exfoliating epidermis showed an abundance of fungus, but its exact nature had not yet been ascertained, as there had been insufficient time for the culture to grow when the case was exhibited.

The exhibitor considered it probable from the concentric appearance of the lesion that the fungus was of animal origin, and was possibly the microsporon of the cat, but he would report upon it later if a culture were obtained.

Dr. GRAY said he had observed two cases of eczematoid ringworm of the palm, and in both of them the organism was an ectothrix.

The PRESIDENT said that some time ago, when this question was a burning one, Dr. MacCormac and he had investigated many eczematoid eruptions on the hands in which an epidermophyton was discovered, which would previously, without microscopic examination, have been considered examples of vesicular or dysidrotic eczema.

Dr. SEQUEIRA said he had just reviewed a small paper by Dr. Murray and Dr. Paul, of Sydney, Australia, and these authors said that vesicating eruptions of the dysidrosis type were found to be associated with a fungus in 80 per cent. of the cases; they insisted on the importance of an examination for fungi in cases of dysidrosis.

Dr. DORE thought that Sabouraud did not recognise an ectothrix cat ringworm, but included it in the Microsporon lanosum group. Apparently Sabouraud regarded the cat microsporon as rare in France, and described the ectothrix form as Trichophyton niveum radians of the Ectothrix microides group.*

Dr. PERNET said that in 1904, at the old Dermatological Society of London, he had shown a case of Tinea circinata in a young adult woman, who had contracted it from a cat. It was a case of cat microsporon, an observation which he had confirmed by culture.†

Dr. H. G. ADAMSON sent a case of *hyperidrosis of the palms* (shown by T. P. Beddoes, F.R.C.S.). The patient, a girl, aged 16 years, had had the complaint as long as she could remember. There was profuse and continuous sweating of the palms and the palmar surface of the fingers of both hands. Changes of temperature seemed not to affect

* Sabouraud, *Les Teignes*, 1910.

† *Brit. Journ. Derm.*, 1904, xvi, pp. 347 and 458.

the condition. The perspiration was so profuse that the sweat dripped from the hands. Neither the soles nor any other part of the body was affected. From time to time large vesicles formed about the fingers or burst, leaving sore places. It was proposed to treat the case by X-rays "filtered" through an aluminium screen.

The PRESIDENT said that all members of the Section had seen cases of this condition, although perhaps not quite so extreme. One case, which had impressed itself upon his memory, was that of a medical man who had a severe sunstroke in Japan, and, after recovering from that illness, hyperidrosis developed and persisted permanently. When he entered his (Dr. Pringle's) consulting room, sweat was oozing through his boots, as if he had been wading in a stream; it also oozed through his gloves, and he remained permanently disabled in consequence. He also had seen the case of a well-known public man who, when about to make a speech, sweated much as this girl did, although in the intervals, when nothing occurred to make him nervous, his sweat apparatus was quite normal. He regarded the prognosis as bad, and he would like to hear suggestions as to the treatment of such extreme instances as he had mentioned. The temporary benefit of X-rays in cases of less severity was an undoubted fact.

Dr. SEQUEIRA said he had seen the condition almost as severe as in the present case. It was notoriously difficult to treat. He followed Crocker in giving large doses of sulphur in some cases, though he could not trace much benefit from that treatment. Occasionally he had seen improvement follow the application of X-rays, but there was not so much benefit in this type of case as in excessive sweating in the axilla, etc. He had seen hyperidosis on an area of the forehead which had previously been the seat of herpes, and it persisted for a long time after the herpes disappeared. He had seen unilateral sweating, which was set up by the stimulation of acids. Both those facts pointed to a nervous origin of the condition.

Dr. E. G. GRAHAM LITTLE showed a case of *Lichen spinulosus*. The patient was a girl, aged 10 years. The history furnished by the mother was to the effect that the eruption had appeared for the first time twelve months ago on the knees, and had slowly progressed since that date to occupy the present positions. The parts chiefly affected were the summits of the shoulders, the posterior wall of the axillæ, the back and front of both the elbows, the outer aspect of the thighs from the level of the buttocks to the knees, and the back and front of the knee-joint. Two kinds of lesions were to be distinguished—a perfectly pale colourless follicular papule with projecting spine, and a coarser reddened acuminate papule exactly like the papule of Pityriasis rubra pilaris. The reddened areas were chiefly noticeable on the front or extensor surfaces of the elbows and knees, the lesions

elsewhere than in these positions being of the pale variety. There was no itching, nor were other subjective sensations in connection with the patches noted. In view of some recent suggestions of the tuberculous associations of the disease, it might be of interest to note that the patient's elder sister had been operated upon for tuberculous glands, but there was no suspicion of tuberculosis in this patient herself.

The PRESIDENT asked whether it was certain that this child had not got congenital Keratosis follicularis. He thought, chiefly on the ground of the distribution of the eruption, that this was possible, and that the original lesions had been modified by irritation. He saw nothing resembling Lichen planus papules.

Dr. LITTLE replied that no part of the eruption was congenital, and no other member of the family had any similar disease.

Dr. E. G. GRAHAM LITTLE also showed a case of *Pityriasis rosea*. The patient was a Jewish boy, aged 10 years. The eruption was unusually scaly and erythematous, and on the back there were some darkened scaly patches contrasting with the vivid pink of the greater part of the rash. There was no history of a pioneer patch, and the whole eruption had come out acutely nine days previously. It was principally present on the trunk, with a few scattered patches on the upper arms and thighs. It was moderately itchy. The unusual degree of scaling made the diagnosis of seborrhœic eczema a possible one, but the distribution, acute onset, and colour favoured the diagnosis of Pityriasis rosea; in corroboration of this was the fact that there had been some premonitory symptoms of sore throat and headache, and there was considerable and general glandular enlargement.

Dr. Little said he had seen an unusual number of cases of Pityriasis rosea recently in his two skin clinics, and asked whether that was the experience of others. December and January he found were the months of most frequent incidence.

Dr. SEQUEIRA agreed with the diagnosis.

Dr. EDDOWES confirmed Dr. Little's observation that Pityriasis rosea was very prevalent in London.

The PRESIDENT agreed with the exhibitor's views. The type of eruption was that which Dr. Little and he used to discuss when Dr. Little was his clinical assistant fifteen years ago, and which gave rise to difficulties of differential diagnosis between acute seborrhœa and Pityriasis rosea. He had now come to the conclusion that many of the conditions he then thought to be acute seborrhœa

were really unusually inflammatory Pityriasis rosea. Superficially the condition was almost like psoriasis. He had seen a case of this sort irritated by a chrysarobin treatment into general exfoliative dermatitis.

Dr. E. G. Graham Little showed a case of *parapsoriasis-en-plaques*. The patient was a young girl, aged 12 years. The most characteristic of the patches was situated on the upper and outer part of the right thigh, where an area the size of the palm of a man's hand was to be seen, with a faint rose colour and a slightly serpiginous margin, and an almost imperceptible infiltration, so that the whole affected area was slightly swollen and raised. The follicular orifices were unduly patent in this region, but there was no spiny papule. There was no subjective sensation complained of in the affected parts; similar patches were present on the opposite thigh, on the buttocks, on the legs, and on the summit of the shoulders. The condition had persisted for over twelve months, and had recently been considerably altered by treatment with a strong salicylic acid ointment continually applied.

Dr. W. Knowsley Sibley again showed his case of *lymphadenoma with glandular and cutaneous lesions*.* This case had been shown at the meetings of the Section held in June and October, 1914, when it was referred for investigation and report to the Pathological Committee. Since this date the patient had been taking arsenic internally, and had had several applications of the X-ray made to the tumours over the occipital region, the enlarged glands in the sides of the neck, and to that in the left groin, and also the skin over the left arm, forearm, and hand.

In December the patient had had a severe attack of Herpes zoster gangrænosa, preceded by considerable pain over the left lower ribs, which had left extensive and deep scarring. He had also from time to time complained of pain in the distribution of the median nerves, which disappeared on omitting the arsenic for a day or two. At the present time he was taking 12 minims of liquor arsenicalis, three times a day, after food.

There was a very considerable improvement in his general condition. The skin lesions were much less marked, though the actual local appearances varied considerably from time to time, almost from

* The full report of the Pathological Committee on this case is now published (see p. 54).

day to day. The tumour-like formations on the back of the neck had completely disappeared, and all the enlarged glands which had been treated with X-rays had considerably decreased in size.

LITERARY NOTES.

Messrs. J. and A. Churchill have issued a second edition of Dr. J. H. Sequeira's *Diseases of the Skin*. New coloured plates and text illustrations have been included, many articles have been re-written, and there have been numerous additions.

Mr. H. K. Lewis will shortly publish for Dr. R. Prosser White a monograph under the title, *Occupational Affections of the Skin, a Brief Account of the Trade Processes and Agents which give rise to them.*

Bern Ramazini, in the preface to his treatise, *On the Diseases of Artificers*, written about 1700 A.D., translated by R. James, second edition, claims that he is unaware "that any author has yet appeared in this field." He further pertinently remarks that besides the many questions ordained by the Divine Hippocrates to be asked by the physician of the patient must be added, "What trade is he of?" Two centuries of time have enforced this dictum, especially to the student of skin-diseases. Through the ages industrialism has and ever will be more and more alert to modify old and invent new agents: to improve old and create new processes.

The object of the compiler of the *Occupational Affections of the Skin* has been to epitomise present knowledge on the subject, and where possible to point out the hurtful agents. A full index is given to facilitate ready reference.

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MORPHŒA GUTTATA.

By J. L. BUNCH, M.D., D.Sc.,
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A certain amount of literature has sprung up in connection with Morphœa guttata, especially in America, where some writers have held the disease to be synonymous with what they call "white-spot disease," while certain authors have also included other diseases of the skin under this latter designation. But the number of cases of Morphœa guttata recorded is small.

The type known as Morphœa guttata seems to have been first described by Unna in 1894, and corresponds very closely to that denominated by Johnston and Sherwell in 1903 as "white-spot disease," and to the case of Westberg previously recorded in 1901. The lesions observed by Unna appear to have been very small, from the size of a pin's head to that of a lentil, and Darier regrets that Unna should have included them under the heading of sclerodermia, as the microscopical appearances enumerated by Unna do not, he asserts, correspond to those of cases of sclerodermia. Unna's cases were a localised sclerodermia, affecting chiefly the breast and shoulders, and showing itself as small white spots, slightly sunk below the surface, either bluish-white or chalky white in colour. Sometimes the spots had a bluish border and were occasionally, in the early stages, raised above the surrounding surface. They involuted to leave a scar such as is seen in senile atrophy. The microscopical appearances in two cases,

an old woman and a girl, were in the older lesions fairly typical of ordinary sclerodermia, as now generally recognised.

Papers on the same subject have since appeared, by MacLeod in 1904, Sherwell in 1904, Montgomery and Ormsby in 1906, Julinsberg in 1908, Dreuw in 1910, Petges in 1913, and Mackee and Wise last year. A more complete bibliography will be found at the end of this paper, and in it I have only included papers dealing with Morphœa guttata as distinguished from the cases of "white-spot disease" which present the clinical appearances of the "Neurodermatitis alba" of Kreibich, the "Nævus anæmicus" of Voerner, the "Lichen planus atrophicus et sclerosus" of Hallopeau, the "Lichen albus" of von Zumbusch, the "morphœa with maculæ atrophicæ," of Duhring, or the "circumscribed scleroderma" of Zarubin. Such cases as these are unquestionably to be distinguished quite sharply from Morphœa guttata, and American authors, such as Hazen and Mackee and Wise, who have recently written on "white-spot disease," are inclined to limit this name to cases of circumscribed scleroderma or Morphœa guttata.

My case of Morphœa guttata, a girl, aged 11 years, was shown at the Royal Society of Medicine on December 11th, 1914. She had then twelve typical Morphœa lesions on the shoulders, back, chest, and one just below the iliac crest, which had all made their appearance during the past two months.

During the past three months several more have made their appearance, with the same indurated, dead-white, porcelain-like characteristics.

Some of the patches seemed to be slightly sunk below the surface, almost as if they were let into the skin, and some of the recent spots have a pinkish or pinkish-blue areola. The spots are quite unsymmetrical, and even when somewhat contiguous, show no signs of coalescing. They vary in size from a threepenny-piece to the size of the original patch over the iliac crest, which is $1\frac{3}{4}$ in. by 1 in. This patch was first noticed when about the size of a sixpence, but little attention was paid to it until some of the other lesions made their appearance. The occurrence of a new patch is preceded by a certain amount of itching, but this passes off as soon as the patch has definitely made its appearance. The child can, however, predict the appearance of a new patch by the subjective sensation of itching which precedes it. None of the patches show any signs of involution.

Morphœa guttata in a girl, aged 11 years.

To Illustrate Dr. J. L. Bunch's Paper on Morphœa Guttata.

There are no papules of Lichen planus on the skin or mucous membranes, and no family history of tuberculosis.

The case was universally agreed to be one of localised scleroderma, or morphœa.

Westbury's case was a girl, aged 11 years, who had had for eighteen months sharply-defined white lesions, from the size of a pea to a bean, mainly in the chest. Most of them followed the lines of cleavage of the skin.

Johnston and Sherwell's case was a female, aged 26 years, who had first noticed white spots on the chest thirteen years before. They were dead-white in colour, slightly elevated, and similar lesions had also appeared on the shoulders and neck.

Sherwell showed a case before the New York Dermatological Society of a woman, aged 26 years, with lesions on the chest and shoulders of two years' duration.

Warde's case was a woman, aged 31 years, who showed lesions with a white centre and peripheral red zones, but the lesions finally became pinkish with a certain amount of induration.

MacLeod's two cases were in a mother and daughter. In the mother the lesions varied in size from a pin-head to a pea, and were in the neck and chest. Some were surrounded by a red areola. The lesions in the daughter did not resemble morphœa.

Hazen's case was a female, aged 32 years, and he states that the lesions when first seen were typical of Morphœa guttata, but later rather resembled Lichen planus atrophicus.

Kretzmer has recorded two cases, one in a man, aged 35 years, in which some of the lesions resembled Lupus erythematosus. The second patient was a man, aged 60 years, who had lesions over the zygoma and on the neck and behind the ear.

An interesting case is depicted in Jacobi's Atlas, inasmuch as the patient was a male. He was 39 years of age and had a number of apparently typical white-spot lesions in the front of his neck and in the subscapular region, and they had a faint pinkish margin surrounding them.

A more remarkable case is that of MacKee and Wise, also in a male. He was 43 years of age, in whom there developed at the same time four (and four only) white spots—two on the penis and two on the scrotum. Subjective symptoms were absent, except slight itching.

The penile lesions appeared as though they were embedded in the skin, like mosaic; palpation revealed slightly perceptible infiltration. The centre of the lesions, which were ½ mm. in diameter, was smooth and lustrous, and the lesions were intensely white. The scrotal lesions were similar; there were no others, and no signs of Lichen planus. No history of tuberculosis was obtainable.

Montgomery and Ormsby record two cases of Morphœa guttata of the shoulders and chest in women, aged respectively 40 and 49 years. In the second patient there was, in addition, a typical patch of sclerodermia extending from the knee to the ankle on the outer and anterior surface of one leg.

Sequeira has recorded the case of a lad, aged 19 years, who suffered from the band form of sclerodermia affecting the left leg and thigh, and also from lesions of the guttate type involving a zoster-like area on the left side of the abdomen. In this case the cutaneous affection was the sequel to an injury which involved the left side of the chest.

Petges discusses the relationship of a case of circumscribed morphœa "en gouttes" to similar cases of sclerous or atrophic Lichen planus, white-spot disease, and the Kartenblattähnlicher sclerodermia of Unna.

Unna's type he describes as being whitish lesions, of the size of a pin's head up to that of a lentil, circumscribed, isolated, or confluent.

Petges' own case was that of a female, aged 25 years, born of tuberculous parents, who, a year and a half before the author's observation, had noticed some whitish lesions on the front and back of the neck and on the interscapular region. At that time no more than ten could be counted, but they had since increased in number up to ninety-five or so, situated on the neck, shoulders, and chest. The largest were of the size of a 20 centime piece. At first the lesions were apparently peripilar and brown; they gradually enlarged and became white and increased until they were about the size of a lentil, the surrounding skin remaining quite healthy. In the region of the most numerous lesions these seemed to point to coalescence, but such coalescence never took place, a small portion of normal skin always separating two adjacent spots.

No pruritus was present in any of the patches; no signs of Lichen planus were visible on the skin or on the mucous membranes. Cure of

the lesions resulted, as seen in some areas, in a macule of a dull white colour, atrophic, cupilliform, supple, and soft.

Histological examination showed that the derma and epidermis were involved. The epidermis was profoundly involved; the line of the interpapillary bodies was not dentelated, but formed as a more or less sinuous line; the horny layer was the seat of a marked hyperkeratosis; at the summit of the hair orifices there was a mass of horny material extending to a thickness of a quarter of a millimetre. In fact it was around the hairs that the maximum effect of the disease was seen.

The derma was also markedly affected; the papillæ were barely defined; there was a marked thickening of the fibrous tissue, and the elastic tissue was rarefied and appreciably altered. The sudoriparous glands were atrophied, but the sebaceous glands appeared normal. The capillary vessels were constricted, and the lymphatic vessels were difficult to see.

The microscopical appearances show, therefore, a well-marked hypertrophy of fibrous tissue in the derma, with atresia of the vessels and blocking of the glands and hair follicles, appearances all characteristic of sclerodermia, and differing from Lichen planus in the absence of cellular infiltration and the formation of masses of new cells, which is always seen in this variety of neoplasia.

Petges goes on to compare the histological appearances of this case with those seen in other undoubted cases of patchy sclerodermia which have been under his care and that of Prof. Dubreuilh, and points out that they are closely similar.

But the histological reports of different cases of Morphœa guttata show the greatest discrepancies, and it would be difficult to group such cases on the histological findings alone. Perhaps the most consistent findings are those describing the epidermis, for, in most cases, the horny layer is thickened, and the papillæ partly or entirely obliterated, while there is usually thinning of the rete. But the corium may either show hypertrophy of the collagenous tissue, or degeneration of the connective tissue; the blood-vessels were constricted in the cases of Montgomery and Ormsby, Warde and Westberg, dilated in those of Juliusberg and Riecke. The elastic tissue was diminished in the case of Hazen and Juliusberg, and unaltered in the cases of Westberg, Riecke, and Warde.

Of course, some of these discordant results may be explained by saying that the lesions were examined in different stages of evolution, but the net result of such examinations throws doubt on the possibility of making any satisfactory diagnosis from the histology alone.

The differentiation of Morphœa guttata from Lichen planus sclerosus and atrophic Lichen planus has been a subject of discussion by various writers, and in some of the cases recorded by Hallopeau, Darier, Brocq, Dubreuilh, Stowers, and others the diagnosis has been far from easy to establish. But in Lichen planus atrophicus the patients are generally considerably older than cases of Morphœa guttata, pruritus is probably always present at some stage of the disease, the lesions tend to coalesce, the typical papules are present somewhere on the skin or mucous membranes, the usual quadrillage is to be found in the diseased area somewhere, and, when the lesions have been in existence some time, certain of them show a brownish or purplish coloration. Microscopically, Lichen planus atrophicus shows a definite small cell infiltration with hyperacanthosis, and, therapeutically, it is far more amenable to treatment than Morphœa guttata.

The name "white-spot disease" seems to be rather unfortunately chosen, since it might equally well apply to some leucodermias, to certain nævi, to some cases of anæsthetic leprosy, and to vitiligo, and it would be well in future to limit it to certain definite cases of multiple sclerodermia, or Morphœa guttata, occurring chiefly in females, which may, at some period or another, develop into typical lesions of multiple morphœa.

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TRICHOTILLOMANIA ASSOCIATED WITH OTHER FACTITIOUS MANIFESTATIONS.

By GEORGE PERNET, M.D.,
Dermatologist to the West London Hospital.

Trichotillomania was the name originally given by Hallopeau to a condition which he described as made up of "vives sensations prurigineuses s'exagérant par accès dans toutes les parties velues du corps et simultanément par une vésanie qui porte les malades à y chercher un soulagement en arrachant les poils des régions où elles le produisent."* Fournier considered this mania for pulling out hairs was neuropathic. In the two cases I am about to detail, I do not intend to stick closely to the definition of Hallopeau, for, indeed, in them precedent itching did not appear to play a part, though it may well have done so. At any rate, the patients did not insist on pruritus. The interest of their cases lies in the fact that the trichotillomania was associated with other factitious manifestations.

Case 1.—A young lady, aged 20 years (Case-Book I, p. 277, 1911), who was losing her hair. On examination I found it was coming out in a patchy, irregular way. The hairs were broken off and growing irregularly. The appearances were not those of any spontaneous morbid condition such as Alopecia areata. I concluded the hairs were

* Hallopeau, 1888–89; for references see Bodin in *La Pratique Dermatolgique*, iv, p. 21.

pulled out and that the condition was factitious. This was ultimately found to be the case.

In addition, there had been recurrent trouble with the lower jaw which had been operated on several times for removal of necrosed bone, for which no explanation had been forthcoming. This bone condition was also factitious.

This case improved on valerianate of zinc, a local lotion, and suggestion. When I saw the patient a month later the hair was growing well and regularly.

I did not see her again, but from what I heard morbid manifestations had ceased.

Case 2.—Also a female patient, aged 22 years (West London Hospital, N. 366, 1913).

For two years on and off she had had Dermatitis factitia, face and chest, made up of quadrilateral, elongated, and streaky lesions, obviously produced by some liquid irritant. The hair for nearly a year had been coming out in a patchy way. Here again, examination showed the hair had been pulled out mechanically.

The patient had some pharyngeal anæsthesia, also some anæsthesia about the right border of the tongue. No tender points, either ovarian or infra- or supra-mammary. There was a history of a fit, which from the description appeared to have been hysterical rather than epileptic.

For some weeks under observation fresh lesions appeared in the skin and about the scalp. I was not able to bring the patient before the Royal Society of Medicine as I had intended.

Getting tired of ordering placebos, and out-patient suggestion having failed, I asked to see the mother, who a day or two later bowled the patient out. I have heard that everything has gone on all right ever since.

In conclusion, I should like to add that in one case (a boy) recorded, I think, by Hallopeau, the trichotillomania was found to be connected with sexual sensations. In my two cases, I did not go into this matter. An exponent of Freudism would, no doubt, have probed the problem to the bottom by an analysis of dreams.

That both my patients were neuropaths was obvious.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held February 18th, 1915, Dr. J. J. Pringle, President of the Section, in the Chair.

Dr. E. G. Graham Little showed a case of *multiple tumours*. From clinical evidence alone he had regarded the case as one of fibro-sarcomata, but which proved on microscopical examination to be possibly a condition of chronic fibrosis of the fat zone. The patient, a gentleman, aged 49 years, gave an extraordinary history. Fifteen years ago he was treated, first in Turin and later in Geneva, with hypodermic or intramuscular injections of "phosphorus," ordered for a nervous affection from which he was supposed to be suffering. He had about fifteen injections of this, given every alternate day, some by the doctor and some by himself. Nodular swellings had resulted, which had persisted for fifteen years and latterly had increased in size. In one or two instances there was slight redness round the tumour, but for the most part there was no inflammation, and the patient suffered hardly any discomfort. There were about twelve tumours, each 2 in. by 1 in. in size, in the form of flat masses of induration which affected the whole thickness of the skin and were movable with it over the subjacent tissues. The diseased area could be lifted up, and formed a thickness of about ½ in., and one of these which was excised confirmed the clinical impression. The surface of the mass was, except in one or two instances mentioned, of the same colour as the surrounding skin, and was slightly puckered. The tumours were distributed on the upper parts of both buttocks and on the inner and upper surface of both thighs. These were also the sites of the injections, according to the history. The masses were extraordinarily hard and firm, and felt very like fibro-sarcomata. One of the smaller tumours from the buttock was excised, and sections cut from it and examined by Dr. Kettle, Pathologist to St. Mary's Hospital, who furnished the following report:

"Sections were taken through the greatest diameter of the nodule and from the surrounding fat, and were stained in various ways. Unfortunately it was not possible to make satisfactory preparations

stained for fat, as the specimen had been sent for examination put up in alcohol. The skin seems healthy and shows no change of any importance. The tumour presents a very anomalous appearance. It is composed, for the most part, of a very dense fibrous tissue which contains few fibroblasts, and shows little or no evidence of activity. Occasionally, especially at the deeper margin, there are groups of mononuclear cells, but the main mass of the tumour appears to be quiescent. Imbedded in this fibrous tissue are large groups of irregular cells varying very much in size and shape, and having a vacuolated cytoplasm and a compressed, deeply staining nucleus. Sometimes these cells are larger, denser, and multinucleated. These groups of cells occur especially in the more superficial zone of the tumour and its deeper part, and they appear to be invading the normal fat at the periphery, either independently or in association with prolongations of the fibrous tissue. They are, I believe, fat cells of the embryonic type. The appearances may be explained, I think, by regarding the condition as one of chronic inflammatory fibrosis associated with regeneration of fat. In the central parts the inflammation is old, but at the periphery there is some fibroblastic reaction and cellular infiltration pointing to an active process, although there is no evidence as to its nature. The formed vessels show a considerable degree of sclerosis, also suggestive of an old inflammation. Even so, the fat reaction seems to me to be highly peculiar and difficult to explain, for it appears to be present in advance of the inflammatory area. The tumour is not a fibro-sarcoma, but there is just the possibility that it might be a highly atypical form of lipo-sarcoma. In the absence of any localised mass of growth, however, this is scarcely likely, and I should not care to suggest such a diagnosis without much stronger evidence. Under the circumstances I think the condition must be regarded as a chronic inflammatory one, of unknown origin."

Expressions of opinion were invited as to the prognosis and treatment.

The PRESIDENT (Dr. J. J. Pringle) remembered having seen one apparently identical case, which was diagnosed after microscopic examination as multiple fibro-lipomata; but there was no history of previous puncture or other traumatism. There were six growths present, and they were successfully removed by a surgeon.

Dr. PERNET said he had never seen a similar case, but it reminded him of one

something like it under Radcliffe-Crocker a number of years ago. The patient attended once only, and no microscopical examination was made. Radcliffe-Crocker's suggestion was that the tumours might be due to drug taking. There had been no injections, as in the present case.

Dr. MacLeod agreed that the obvious feature in the case was a fibromatosis, which was well marked in the hypoderm about the fat lobules. He was unable to express an opinion from the section exhibited as to whether there was a new lipomatous formation. He considered it quite possible that the fibromatosis might have been set by the injections.

Dr. George Pernet showed two cases of *Dermatitis factitia*. Case 1.—A female patient, aged 23 years, with a number of superficially ulcerated irregularly shaped lesions, and the remains of older ones and scars, about the upper hemisphere of the left breast. The process had been going on for a year on and off. There was a history of similar lesions in the same situation three to four years previously. There was also an ulcerated lesion on the right leg. According to the patient, the individual lesions lasted three months, then fresh ones appeared. There was very marked tenderness in the supra and infra-mammary areas on the left side, but no ovarian tenderness. Some anæsthesia on the left border of the tongue was also present a few days previously, but there was no pharyngeal anæsthesia. The patient was left-handed in a general way for rough work, but she used her right hand for writing.

Case 2.—A female patient, aged 30 years, with a history of three years and four months' duration. The condition was said to have been started by the accidental discharge of a shot in the left forearm. Now the extensor surface of the left upper limb is occupied by irregularly shaped, superficial ulcerations, crusts, and scars. The individual lesions got quite well, but broke down again when the patient resumed work. On the left side, from the shoulder and curving down over the left breast, were a number of scars, hypertrophic, irregular in shape (lozenge, angular, and elongated), and reaching on the shoulder to near the spine of the scapula (within radius of fingers of right hand thrown over left shoulder). On the left side of the body, in the mid-axillary line and above the region of the last ribs, were the remains of recent lesions superficially reddened, and also the remains of the older ones. The patient was right-handed. A few days previously, on her second visit, she presented some recent more or less quadrilateral bullæ of the *pomme soufflée* type.

Mr. Samuel said he would like to discuss these cases from a psychological point of view. He did not agree that all Dermatitis artefacta cases should be called (as they were in some text-books) *feigned eruptions*. There were two chief classes of cases—viz. (*a*) the true malingerer, where the artefact was produced *consciously* for the sake of gain or freedom from work; (*b*) the other more common class of case—viz., the hysterical Dermatitis artefacta. It was at first sight difficult to appreciate the reason for these hysterical manifestations. It was commonly said it was due to the desire to attract sympathy, or suggested the patient was devoid of reason. Mr. Samuel could only briefly touch upon the explanation, but, according to Freud, it was somewhat as follows: Freud regards hysteria just as he did all the psycho-neuroses, as the result of conflict between factors of the sexual instinct in its broadest sense and that of herd instinct (*i. e.* the ethical code, customs, conventions, laws, etc., of the society the individual belonged to). In most normal individuals the sexual instinct was sublimated into useful social channels, but in the neurotic the sublimatory process was not achieved, and the inevitable conflict, with its accompanying emotional tension, took place in the patient's mind. This intolerable state of tension was got rid of by a process of *repression* where the offending combatant—viz. the sexual instinct—was pushed back into the unconscious (it was noteworthy that most of the cases were young single girls with no outlet for the sexual emotion). Although repressed, the idea did not cease to exist, but, on the contrary, acted as a foreign body, constantly striving for exit and expression. It could not do this in consciousness, owing to the repressing force (Freud's endopsychic censor), but did so indirectly in all kinds of ways, so long as the subject did not recognise it in its disguise—viz., by phobias, hysterical paralyses, anæsthesia, and artefacts—so that these manifestations could be looked upon as indirect expressions of the sexual instinct and emotion. Freud called them conversion hysterias (the idea converted into physical stigma). Being unconscious the idea was not under the control of the will and became dissociated and assumed an automatic action. It was obviously useless and unfair, therefore, to take the patients to task or confront them with the act which was automatic, just as functional anæsthesia and paralyses were dissociated. One must try to reach the unconscious by hypnosis and make suggestions in that condition; but these hysterics were hard to hypnotise, and even then one is only dealing superficially with the trouble, which would recur in other forms. The most rational treatment was that of psycho-analysis (a very long and difficult procedure requiring great experience and special technique), by which the submerged idea was reached and made conscious. The patient is re-introduced to his conflict in consciousness and made to fight it out, assisted considerably by sublimating the striving instinct into useful social channels. One should never ridicule these poor sufferers or regard their symptoms as trivial.

Dr. Graham Little did not agree with Mr. Samuel's contention that patients should not be confronted with the accusation of self-mutilation when this could in fact be proven. He had been struck with more than one demonstration of the rapidity of cure when the patients knew that they had been found out.

Dr. F. Parkes Weber thought that of all the diseases related to disorders of the psychical system, artificial eruptions in young women most deserved study from the psychical point of view, and it would have been a great advantage if the followers of Freud's teaching had concentrated upon this subject much of their

psycho-analytic investigations. It would be a great gain to be able to clear up the mysterious mental element in these cases.

Dr. PERNET replied that he agreed with some of the views which Mr. Samuel had expressed. In 1909 he read, in Philadelphia, a paper on "Psychological Aspects of Dermatitis Factitia."[1] Moreover, at the Salpètrière, in the days of Charcot, he had seen many cases of hysteria. But he did not agree with Mr. Samuel's definition of hysteria as a conflict between primary instincts. Janet, in his *Automatisme Psychologique*, discussed hysteria very fully. Dr. Pernet had suggested that in some of these cases there was perhaps an alternation of personality. As to Freudism, that was an entirely different question.

Mr. J. E. R. McDONAGH showed a case of *Coccidiosis avenerea, with microscopic specimens*. Mr. McDonagh read some notes of this case. The patient, a big and healthy-looking man, aged 22 years, was brought to him by Mr. Drew (Oxford), complaining of a rash on his elbows and penis. When the rash appeared the patient was stationed in the North-West Frontier Province (India), and the following was the patient's account of the case: In August, 1914, he was playing hockey when he fell and cut both knees and the right elbow. A dressing was applied to the knees, but as the elbow wound was trivial no attention was paid to it. The knees healed quickly, but although the wound on the elbow healed in time, a rash developed outside it, and it had been gradually spreading since. In September, 1914, the patient had what he called a "go of temperature," which lasted for three weeks. The patient had never had fever before, so the diagnosis made at that time was "fever following a frontier sore." Many doctors saw the sore on the elbow, and most were of the opinion that it was a "frontier sore." In November, 1914, a rash appeared on the penis, and a month later the left elbow became affected. The patient was treated with arsenic internally and various ointments were applied locally without any result.

When Mr. McDonagh saw the patient he was only on a few days' leave from the front, and it was on this account that he was unable to show the case. The lesion on the right elbow was a little bigger than a five-shilling piece; it was purple-blue in colour, slightly crusted in parts, and here and there were small depressed scars. The patch looked not unlike a sarcoid. Outside the patch there were several irregularly distributed, but discrete papules. The papules

[1] *Vide* Pernet, *Trans. Amer. Derm. Assoc.*, 1909; also the *Journ. of Cutan. Dis.*, New York, 1909, xxvii, p. 547.

were about the size of a hemp-seed, red-brown in appearance, with somewhat of a transparent look, like the apple-jelly nodules in lupus. Some of the papules were crusted, a few had coalesced, but the base upon which they were situated was not inflamed. The rash on the penis and the left elbow was papular and indistinguishable from the papules just described. The papules on the penis affected the glans, the corona, and the under-surface of the prepuce. When the under-surface of the prepuce was stretched several papules were seen to be developing, so a portion of the tissue in this region was excised for microscopical examination. The patient had no enlargement of his lymphatic glands, nothing else abnormal could be discovered; he had never had sexual connection, and the Wassermann reaction was negative in all dilutions.

Thinking the case was one of an infective granuloma, and probably protozoal in origin, Mr. McDonagh gave the patient potassium iodide internally and unguentum iodex externally, with the result that in four days' time there was a very distinct improvement.

Histological examination of an early papule.—Situated in the deeper layers of the corium was a circular cellular infiltration, about 1 mm. in diameter. The mass was perfectly circumscribed, and there was no surrounding cellular infiltration. The mass might be said to consist of three parts: an outer layer of plasma cells, then a layer of mixed plasma cells, lymphocytes and endothelial cells, while the centre was mainly occupied by lymphocyte-producing endothelial cells. Hence the mass was not unlike a lymphoid follicle in a chronically inflamed lymphatic gland. Mainly in the intermediary zone were to be found some intracellular bodies, which were markedly pyroninophile, suggesting at once that they were parasitic. The cell affected was the endothelial cell, and the following were the phases which could be discerned:

(1) A bright pyroninophile mass lying in its own unstained protoplasm, and the whole situated in a sac outlined by the edge of the protoplasm of the endothelial cell, and in one part by the concave inner surface of the nucleus (trophozoite).

(2) An inclusion body in which the pyroninophile mass had become divided into two (merozoite).

(3) Inclusion bodies in which the pyroninophile masses had further divided into four, eight, and so on (spores).

The further developed was the inclusion body, the more degenerated was the endothelial cell, so that when the body had formed what appeared to be spores, it looked as if it was extracellular. The inclusion bodies were optically active, and gave the same micro-chemical reactions as the phases of the *Leucocytozoon syphilidis*, to the asexual stage of which they seemed to correspond.

In the opinion of the exhibitor the case was one of what might be called human coccidiosis, in which only the asexual stage was perpetuated. He had seen somewhat similar bodies to these in Granuloma inguinale and in the sections of Dr. Sequeira's case which was recently submitted to the Pathological Committee of the Section.

From what had been said about this case, the most reasonable explanation to offer would be that the organism entered the wound on the right elbow from the earth, developed *in situ*, gained entrance to the circulation, caused fever, and then settled down in various areas to produce lesions. Considering how common coccidiosis was in animals, it was surprising that many varieties had not already been described in man. In the same way that it had been claimed that some cases of infective granuloma, which had been wrongly diagnosed as syphilis, were sporotrichosis, the same claim would probably be made out for coccidiosis. He was at present investigating certain primary syphilitic lesions, which were not followed by further symptoms, and which did not respond to treatment unless it were in the form of iodine preparations. He had already come across five cases in which only the asexual stage of the *Leucocytozoon syphilidis* could be demonstrated.

Whether the parasite in these cases was really the *Leucocytozoon syphilidis* or some other coccidium remained to be seen. Anyhow, there were small differences in the various cases he had seen, which he hoped to give in fuller detail later.

Dr. S. E. Dore showed a case of *favus of glabrous skin*. Dr. Dore said the case had been somewhat spoiled for demonstration purposes by treatment. The patient, a girl, aged 10½ years, presented two oval, erythematous, slightly scaly patches on the chin and right side of the neck near the angle of the jaw. There was also a similar lesion on the outer side of the right knee. When first seen the patches were indistinguishable clinically from circinate ringworm but for the

fact that there was a typical favus cup in the centre of the lesion on the chin. He thought it was probably a mouse favus. Cultures and a stained microscopical specimen were shown. The mother said there were mice in the house, but the one she had brought him was healthy. The patient was English, and neither mother nor daughter had ever been out of this country.

Dr. Adamson said that mouse favus in children due to *Achorion Quinckeanum* was fairly common in this country, and several members had shown examples. He did not think the culture exhibited by Dr. Dore was an *Achorion Quinckeanum*, which gave a more luxuriant white downy growth. It was not unlike a large-spored tricophyton culture, and he thought it might be the "tricophytiform favus," which had been described by Sabouraud, and not previously recorded in this country. It was not the ordinary *Achorion Schönleinii*.

Dr. Douglas Heath said he had had two cases of mouse favus, and the cultures he obtained from them where white and downy. The present culture was almost of a buff colour, and drawn in towards the centre, so it seemed different from the cultures of mouse favus with which he was familiar.

Dr. MacLeod said that he did not consider that the cultures shown were ordinary human favus, and thought that they were somewhat less fluffy and more yellowish than the ordinary cultures of the *Achorion Quinckeanum* of mouse favus. Before coming to a conclusion that the culture was a third fungus, he thought it would be advisable to grow it on Sabouraud's medium.

Dr. Graham Little suggested that Dr. Dore should grow the fungus on the recognised proof medium of Sabourand, and bring another sample of growth under these conditions. He was not persuaded that this was not an atypical form of *Achorion Quinckeanum*, the unfamiliar nature being possibly conditioned by the medium on which it had been cultivated. In early days, before the general adoption of the proof media, many varieties of the same species had been reported, the variations being subsequently shown to have depended on variations in the medium.

Dr. Bunch said the cultures shown were, in his opinion, unusual, although he was inclined to think they more closely resembled the *Achorion Schönleinii* than the *Achorion Quinckeanum*. He agreed that it would be of interest to see what the culture would be when grown on Sabouraud's medium.

Dr. W. Knowsley Sibley showed a case of *morphœic sclerodermia*. The patient was a woman, aged 29 years. She had been married three years and had one child, aged nearly two years. There was nothing unusual in her family history, and no case of consumption had been known to occur in it. She had had scarlet fever and measles when a child, and was not in good health when aged about 15 years, when she suffered with patches of baldness. After a time the hair grew again on all the bald patches. For some years she had noticed "white spots" scattered over the upper regions of her chest.

Of recent months these had considerably increased, both in numbers and size, many having coalesced to form larger areas. Similar spots had also appeared over her shoulders, sides of neck, and forearms.

On examination the upper regions of the thorax were seen to be studded with a large number of white spots which had the appearance of being small scars, as after an attack of acne. The spots were opaque, white, and glistening in appearance. Over the clavicular regions the skin was generally white and slightly infiltrated. The shoulders presented a somewhat similar appearance, with a marked patch of sclerodermia as large as the palm of the hand, situated in the intrascapular region, where the skin was much infiltrated and wrinkled. There was a considerable increase of pigmentation in the skin in the neighbourhood of these white patches. White patches similar to Lineæ atrophicæ occurred on the sides of the neck over the posterior border of the sternomastoid muscle up to the hairy scalp. Similar lesions occurred over the ulnar surface of the forearms. The Lineæ atrophicæ on the sides of the abdomen were not very abundant, and were normal in appearance. There were no lesions present on the thighs or legs.

The patient had some half dozen small patches of Alopecia areata about the scalp, on some of which the hair was regrowing. The eyeballs were possibly somewhat prominent and Graefe's sign was present. The thyroid was slightly enlarged.

Dr. J. L. Bunch said he had recently showed a similar case of Morphœa guttata before the Section for the Study of Disease in Children, in a child, aged 12 years. He had been surprised to find how many French and American authors found it difficult to make a diagnosis between it and Lichen atrophicus. No doubt there were, in some cases, resemblances, but in his opinion the differential diagnosis between the two diseases did not, as a rule, present very great difficulties. In both French and American literature considerable stress was laid on a history of tuberculosis in the patient, or his or her parents, but no such history was obtainable in his patient, and he asked Dr. Sibley whether his patient gave any such history. Dr. Bunch asked whether any section had been made, as the microscopical appearances already reported seemed to differ considerably (*vide* p. 83).

Dr. F. Parkes Weber asked whether members of the Section agreed that in these cases of superficial sclerodermia the tissue over and about the clavicles was one of the most frequent sites to be affected, as he thought it was. He asked whether definitely satisfactory results had been obtained from thyroid treatment in these cases. Thyroid treatment had been largely employed, or rather

had been given a trial in all varieties of sclerodermia, notably in the deep symmetrical diffuse sclerodermia specially affecting the extremities (before the onset of marked atrophic changes).

Dr. Graham Little, in answer to Dr. Parkes Weber, said that he had had marked improvement with thyroid treatment in a case of extensive patchy sclerodermia, and the patient himself had been so satisfied of the improvement that notwithstanding that he was obliged to remove to Derby, he continued to come up from that somewhat distant place in order to remain under treatment.

The President said it was undoubtedly very frequent for morphœa to appear first on and above the clavicles. In this case, he thought the association of Alopecia areata with typical morphœa suggested the possibility of some endocrinic gland disorder, perhaps of the thyroid, and he drew attention to the presence of a distinct degree of von Graefe's eyelid symptom in the patient on the right side. The most perfect example of guttata sclerodermia he had seen —it was now the fashion to call it "white-spot disease"—was in a girl, whose case he exhibited to the Clinical Society twenty-nine years ago.* She had typical Graves's disease, and rapidly developed multiple, tiny, roughly symmetrical spots of morphœa. Three years previously she had had symmetrical Alopecia areata. Many other such cases had been recorded in which thyroid gland disorder had been present, associated with morphœa. He had not, however, seen any convincing evidence of the efficacy of thyroid treatment, either of morphœic sclerodermia or of Alopecia areata. It was remarkable how seldom these cases of the morphœic type merged into generalised sclerodermia, if they ever did so.

Dr. Sequeira said he showed, some years ago,† a lad who had the band form of morphœa, associated with the guttate form of sclerodermia, with herpetiform distribution on one side of the chest. The band on the leg extended from below the trochanter along the line of the satorius and involved a great part of the leg. The guttate lesions were limited to the anterior half of the intercostal nerve areas.

Dr. Pernet agreed that the clavicular region was frequently an early seat of the condition. He believed he had had some results from administering thyroid extract. In a girl now attending the West London Hospital improvement seemed to have followed thyroid gland treatment; the effects were slow to make their appearance.

Mr. Samuel asked if members had noticed the prominence of the eyes, and queried whether the lagging of the eyelid noticed by the President would not be a contra-indication of treatment by thyroid extract. According to a recent article in the *Practitioner*, many cases of exophthalmic goitre developed into athyroidism and then did well on thyroid, and that in that stage the exophthalmos might still be evident, although the patient was actually suffering from deficient thyroid secretion.

Dr. A. Eddowes said not only was the clavicular region a common early seat of the condition, but he believed the affection appeared more commonly on the left side than on the right.

Dr. Sibley replied that he had not found any history of tubercle in the patient; sections had not been made. The main interest in the case appeared to be one

* *Clin. Soc. Trans.*, 1886, xix, p. 313.

† *Brit. Journ. Derm.*, xix, p. 242, and xx, p. 198.

of treatment. His experience of these cases, especially when there was much infiltration of the chest wall, was that they were all improved and often cured with local radiant heat treatment. He had begun that in this case, which was still at an early stage.

Dr. E. G. Graham Little showed a case of *rodent ulcer*. The patient, a man, aged 71 years, exhibited a rodent ulcer on the nape of the neck, and his case presented some interesting features. The history was that five years ago a "kernel" had formed on the neck, which increased in size without ulcerating, until it must have been as large as a good-sized walnut, and when at the end of four years—*i.e.* twelve months ago—a portion of the tumour had ulcerated, leaving an intact portion of the upper and inner margin, which remained a typical waxy, mamillated growth as big as a Barcelona nut. The ulcerated portion, in immediate continuity with this, was larger, and also presented the typical aspect of rodent ulcerations, the raised hard ridge surrounding the shallow excavation being particularly noticeable. No enlarged glands could be felt in the neck. A second feature of interest in the case, besides the unusual position, was the fact there were numerous senile keratomata on the dorsum of both hands, and some on the face as well, and one in the latter position had begun to ulcerate, forming a second very small "rodent ulcer." There was no evidence, however, to show that the large ulcer on the neck had begun in the same way, on the site of a senile keratoma. Yet another feature of interest lay in the man's statement that his father also had a chronic rodent ulcer of the same type as his own, but he had lived, notwithstanding this, to the age of ninety-five. This history and the rather advanced age of the present patient might suggest the propriety of regarding this as not a rodent ulcer, but as a squamous-celled epithelioma.

It has been stated that the rodent ulcerations with history of inheritance were very seldom seen. The exhibitor did not think the age was an important objection to the diagnosis of rodent ulcer, and he had had several cases of probable inheritance. He was in full agreement with the opinion expressed by Besnier who had said that rodent ulceration might be the terminal form of many varieties of epithelioma, and he held that it was, in fact, a clinical term of great convenience, but did not connote a special cellular type, although, as Fox had pointed out long ago, general experience showed that growths

clinically diagnosed as rodent ulcer exhibited singular uniformity in microscopical structure. Norman Walker had been rash enough many years ago to throw a challenge to the surgeons, "to many of whom," he said, "all slowly growing epitheliomata were rodent ulcers, but that this view was shared by few pathologists." But if rodent ulcer were essentially a clinical term, and this was all that could, in the exhibitor's opinion, be claimed for it, the two most characteristic differences which alone justified the making of a clinical group apart —and it must be remembered that the large majority of Continental writers did not follow the English school in this separation—were precisely this slow growth and the absence of glandular invasions. By these criteria, and by the absolutely typical appearance of the lesion itself, this was undoubtedly a case of rodent ulcer. Dubreuilh, who had gone furthest of Continental writers in accepting the English view, attempted to withdraw from the rodent group cases showing senile keratomata, and perhaps on these grounds would exclude this patient from that group. But no connection could be established between the rodent ulcer on the neck and the keratomata, although on the face there was a definite commencement of a rodent ulceration on the site of a keratoma. In opposition to Dubreuilh, the exhibitor was of opinion that senile keratomata were frequently associated with the development of perfectly indubitable rodent ulcers.

Dr. Adamson said that this patient had undoubtedly multiple warty growths on the face and backs of the hands which were secondary to Dermatitis solaris of these parts, but he would hesitate to say whether the large lesion on the back of the neck was one of these warty growths which had taken on a more active proliferation, or whether it was a true rodent ulcer of independent origin. A microscopical section would help. If it were a true rodent ulcer it would be probably a pure basal cell epithelioma; if a proliferated warty growth it might still be basal cell, but would also contain horny cell nests. He thought the term "rodent ulcer" should be limited to basal cell growths of embryonic origin and not arising on previously damaged skin. A difficulty arose from the fact that, although the majority of epitheliomata arising on previously damaged skin were squamous cell epithelioma, yet they might occasionally be basal cell and simulate rodent ulcer. They should be kept distinct, because they were ætiologically different and because they were much more likely to involve glands than was the true rodent ulcer of embryonic origin. As to the use of the term "epithelioma," it seemed to him convenient and correct to employ this for any epithelial growth and to preface it by the qualifications "benign" and "malignant."

Dr. MacLeod said that he considered the case to be one of malignant epithelioma, probably due to the irritation of the actinic rays. He did not believe that it was a rodent ulcer, by which he understood a locally malignant epithelioma

growing chiefly from the basal layer of the epidermis, but thought it more probable that it had developed from the prickle cell layer. He considered that it was better to employ the name "epithelioma" in its full sense to include all the epidermal growths, benign or malignant, and not in the restricted sense in which it was commonly used in this country to signify a malignant growth of the epidermis capable of producing metastases.

Dr. Sequeira said the point raised by Dr. Little was chiefly a question of terminology. The difficulty arose through the lax use of the terms "rodent ulcer," and "epithelioma." The lesion on the patient's neck was a carcinoma of the skin; whether basal-celled or squamous-celled was at present an open question. In some such cases the microscope was necessary to establish a diagnosis. He believed the pure pathologists were desirous of limiting the term "epithelioma" to innocent lesions, and of applying the term "carcinoma" to malignant growths with the adjectives "squamous-celled," or "columnar-celled," or "basal-celled." He had had cases of what Hutchinson called "crateriform ulcer"; forming button-like tumours, breaking down in the centre, and some of them were squamous-celled carcinomata, while others were of the basal-celled type. The use of the term "rodent ulcer" was clinically convenient; he took it to mean carcinoma of the skin which did not cause metastasis, and ran a slow course. He would include in it a number of growths which started in the glandular elements of the skin.

Mr. McDonagh said that an epithelioma simply meant an abnormal growth of epithelium. The abnormal growth could be caused by inflammation or by a new growth. If the latter, then the prefixes should be added, so as to state whether the growth was benign or malignant. An inflammatory epithelioma could become a malignant epithelioma, but the diagnosis of the supervention of the latter should not rest upon whether the cells invaded healthy tissue or not, but upon whether they showed nuclear and nucleolar activity. It was best to divide up the new growths according to the layer of epithelium from which the growth arose. A tumour arising from the basal cell layer was a rodent ulcer and the most embryonic. A tumour arising from a layer or two above or from cells which were destined to develop into one or other of the appendages, was less embryonic and formed what were called multiple rodent ulcer and Epithelioma adenoides cysticum. A tumour arising from the middle layers of the rete Malpighii, or from one of the appendages, was what might be called a tumour of mature cell origin. Such tumours constituted the papillomata, tricho-epitheliomata, sebaceous adenomata, and syringomata. In the speaker's opinion, a tumour arising from embryonic cells never became malignant, in the sense that it formed lymphatic gland enlargement and metastases. It never developed nuclear and nucleolar activity, therefore such a tumour was best described as merely exhibiting embryonic activity. Nuclear and nucleolar activity, or pseudo-parasitism only appeared to involve mature cells, and when cells had passed their zenith and commenced their decline, their power of becoming malignant also declined. For instance, a so-called malignant epithelioma in which there were several cell-nests was less malignant than an epithelioma in which there were no cell-nests. The presence of cell-nests meant that layers approximating the stratum corneum had been attacked, and cells which formed horny tissue were partially degenerated.

Dr. H. W. Barber showed a case of *Parakeratosis variegata*. Mrs. H—, aged 38 years, married, with two children, a shopkeeper. She stated that she had had nothing the matter with her skin until last summer. At that time, she thought towards the end of June, some red, somewhat scaly patches appeared on her legs. They were intensely irritable, and she scratched them a good deal. In August she went to the country, where her legs got very much better. In September she returned to town, and then her face, neck, and arms became involved as well as her legs. She consulted her doctor, who treated her with ointment and medicine, and she said that the eruption seemed to be clearing from her neck, forehead, arms, and the backs of her legs. In summer she perspired a great deal, and her skin was always worse and more irritable when she got hot. Her general health was good, except that she was liable to fits of depression.

Description of the eruption: On the cheeks the eruption assumed the form of a diffuse, reddish-brown coloration, suggesting the combination of an erythema with increased pigmentation. Here and there were scattered small, oval, white areas. On the forehead the erythematous element had partially disappeared, leaving irregular areas of pigmentation having a somewhat reticular arrangement. On the neck the appearance suggested Parakeratosis variegata, the retiform arrangement being well marked. On the front of the legs were large, slightly raised, erythematous patches, while on the calves the reticular appearance was again seen, associated with considerable pigmentation. The rash was also present to a slight degree in the antecubital fossæ. The scalp was scurfy and the hair dry.

The exhibitor had shown the case as one for diagnosis. The only suggestion he could himself make was that it was a mixed and unusual case of Brocq's parapsoriasis. The lesions on the neck, backs of the legs, and antecubical fossæ suggested the retiform variety of that disease, while those on the front of the legs might represent parapsoriasis en plaques. According to the patient's own statement the condition of her neck and forehead had been formerly exactly the same as the present condition of her face, and in the same way the retiform appearance on the backs of the legs had succeeded a condition resembling that now seen on her shins. If his suggestion as to a diagnosis was correct, then the marked involvement of the

face, the severe itching, and the marked pigmentation would, in his own limited experience of the disease, be exceptional features.

Dr. MacLeod agreed with the diagnosis of parapsoriasis, and drew attention to the similarity in the type of the lesions and arrangement of those situated about the root of the neck to the case exhibited and reported by Dr. Colcott Fox and himself,* under the heading of "Parakeratosis Variegata." This case, which had been under observation for a considerable period, had proved completely resistant to all forms of local and general treatment which had been tried.

The President said he agreed with Dr. Barber that the case was one of "Parakeratosis variegata," and the reticulated appearance and ribbony, band-like lesions on the neck were rather characteristic of that condition. He well remembered the first three cases of the disease brought to the old Dermatological Society of London many years ago and their being called "Lichen dubius" by Dr. Payne and Dr. Cavafy in nomenclatural dilemma. After the publication of Unna's, Santi's, and Pollitzer's observations in 1890 their name of "Parakeratosis variegata" had been generally adopted until the disease was claimed to be a form of the rather inchoate condition called "parapsoriasis." As a clinical term, he had always rather favoured Crocker's term "Lichen variegatus." Itching was certainly a prominent symptom in some cases. He had now a case under observation which was rapidly going from bad to worse, and he knew of nothing which mitigated the severity of the disease in any way.

Mr. Samuel called attention to the classical description of parapsoriasis of Brocq in the total absence of subjective symptoms; but nearly all the cases he had seen had had itching. A patient whom he had placed under the care of Dr. Gray for some time complained of intense pruritus, and that was the only complaint which induced this patient to seek treatment. In this case the quartz lamp had been employed for some time, and the patient was doing remarkably well as regards the pruritus, all other methods of treatment having failed to give relief.

Dr. J. M. H. MacLeod showed a case of *Dermatitis artefacta*. The patient was a neurotic girl, aged 18 years, employed by a firm of lithographers. The part affected was the dorsum of the right hand, the dermatitis extending for some distance on to the fingers and up to the wrist. The lesions consisted of bullæ which were round or oval in shape and varied in size from a sixpence to a shilling, and which, on drying up, left scabs and clean-cut ulcerations which, on healing, were replaced by superficial scars. The whole of the affected area was covered with these lesions in different stages of evolution. The patient had been operated on at Charing Cross Hospital four weeks ago for a ganglion on the right hand which had been excised; some dermatitis had followed the healing of the excision wound; about a

* *Brit. Journ. Derm.*, 1901, xiii, p. 319.

fortnight later the blebs began to appear and she was transferred to the Skin Department. The character of the lesions at once suggested an artefact, and the appearance of fresh lesions beyond the limits of an occlusive dressing and the healing of those beneath it, corroborated the opinion.

The agent employed in the production of the lesions was uncertain, but it suggested some powerful caustic. The possibility of its being bichromate of potash, which was used in cleaning lithographic plates, was considered.

Mr. SAMUEL asked whether it was not a fact that the skin of hysterics was more susceptible than a normal one.

The PRESIDENT said there appeared sometimes to be "epidemics" of the psychical condition which led to the simultaneous production of cases of Dermatitis ficta in considerable numbers. He had seen such pranks played by several members of one family; and in one case under his care in hospital the materials used for producing the lesions (small fly blisters) were actually supplied by the parents, who were nevertheless greatly indignant at the diagnosis when it was explained to them.

Dr. J. H. SEQUEIRA showed a case of *Lichen planus of unusual chronicity*. W. T—, aged 42 years, a carpenter, came to the London Hospital on February 9th, 1915, on account of an eruption upon the legs. He had had smallpox thirteen years ago, but in other respects his health had been good. Twenty-five years ago an eruption of spots appeared on the front of both legs. The affected parts itched, especially at night, and occasionally, if knocked, an area has broken down to form an ulcer. The eruption consisted of a number of shiny, flat-topped, raised areas, varying in size from a millet seed to patches ½ in. long by ⅓ in. across. The small lesions were characteristic of Lichen planus in their colour, their burnished surface, and shape. The larger areas were evidently caused by fusion of the elementary lesions. These were raised above the surrounding surface about one line, and had a lilac-tinted surface. Some spots were covered with horny scales, but the majority were smooth. The areas involved were the anterior and the antero-internal surfaces of both legs. The thighs, arms, and body were free. The buccal mucosa was also unaffected. The treatment carried out during the twenty-five years had been the application of ointments and lotions.

The case was shown on account of its unusual duration; and

in view of the difficulty he had himself experienced in the treatment of similar cases, he invited suggestions from members of the Section.

Dr. Graham Little agreed that treatment of these conditions by X-rays was usually very unsatisfactory, but he had had considerable success with freezing. In the most hypertrophic case of Lichen planus which he had ever seen, and which he had shown to the Section, the patient, a woman of middle age, had warty growths as big as the distal phalanx of a man's thumb, about twelve of these being situated on the right leg. The growths had been carefully pared with a very sharp razor until sensations of pain began to be felt, and then the surfaces treated with carbon dioxide snow. All the growths had in this way been reduced to be flush with the surrounding skin, and a very good flat scar resulted. The process had occupied about six weeks, the number of lesions to be treated preventing the application to all at single sittings.

Dr. Adamson said that Lichen planus hypertrophicus was generally very intractable. In his experience, X-rays had not given good results in spite of full doses frequently repeated. Other treatments had been employed without success were: Application of salicylic acid plaster, protection by plasters or bandaging, mild cauterisation with trichloracetic acid, and freezing with CO_2 snow. But he had not used the snow after shaving off the growth as Dr. Little recommended. He had lately had good results from nitrate of silver stick dipped into water and rubbed on to the patch. Hypertrophic Lichen planus was not infrequently associated with varicose veins, and in that case supporting bandages helped to remove the skin eruption.

Dr. Douglas Heath said the application of X-rays stopped itching, and he was in the habit of applying strong elastic pressure afterwards. In hypertrophic eczemas strong elastic pressure led to much shrinkage of the lesions.

Dr. Corbett suggested ionisation followed immediately afterwards by X-rays. The combination has been successful in cases of warts which had resisted treatment with either agent separately. The ionisation apparently acted by causing a local hyperæmia, rendering the tissues more sensitive to the X-rays.

Dr. Dore agreed that such cases did not yield readily to X-rays, but he had had two cases in which that treatment had been successful.

Dr. Dudley Corbett showed a case of *Nævus linearis*. The case was of interest on account of the extensive distribution of the nævus growth on the face and neck and its linear configuration on the trunk and limbs, especially the vertical line extending almost exactly in the midline from the clavicule-sterno junction to the symphysis pubis. Thence it was directly continuous down the back of the thigh and knee, following the vertical axial line in that limb.

The President asked if there was any history of other members of the family being similarly affected, and referred to the well-known Lambert family, in

which the disease existed in male members of the family throughout at least four successive generations.*

Dr. George Pernet showed a case of *Tertiary syphilis*. A woman, aged 57 years, with extensive tertiary gummatous infiltration, ulceration, and scarring of the skin of the right leg, which had commenced some fifteen years previously, starting about the part above the right external malleolus. There were also similar lesions about the upper part of the chest at the root of the neck. The interest of the case lay in the fact that the patient had never had any treatment, but for the last fifteen years had merely applied boracic ointment. The patient was a widow and had had ten children; no miscarriages. The husband appears to have died from general paralysis of the insane.

CURRENT LITERATURE.

BESNIER'S PRURIGO. C. Rasch. (*Verhandlungen des Zweiten Kongresses des Nordischen Dermatologischen Vereins*, 1913.)

The condition which Besnier described in 1892 as a peculiar form of prurigo under the name of Prurigo diathésique has received very little mention from later writers. During the last thirteen years the author has seen at least thirty patients whose skin-affections he has not been able to include under any other classification. In the first edition of his *Text-book of Skin-Diseases* (1903) he described the disease under the name of Besnier's prurigo.

The affection, which is sometimes seen in several children of the same family, begins, as a rule, in early childhood, when it appears either as an extensive strophulus or as an extremely itching eczema of the head. The disease may, however, commence between the third and sixth years, when it rapidly assumes its typical characters, with the irritation and skin-lesions confined to the flexor surfaces of the elbow- and knee-joints, the face and neck, and less commonly situated on other places, such as the fingers, hands, abdomen, thighs, and legs. The actual eruption is essentially a diffuse lichenisation, which is complicated during the paroxysms of the disease by weeping and fissure-forming eczema. In rare cases the disease starts at puberty and may then last for life. In one of the author's patients, a man aged 52, the affection had persisted since his fourteenth year. The course of the disease extends over a very long period; the duration is practically speaking unlimited if the general condition of the patient is not altered by treatment.

* *See* article "Ichthyosis Hystrix" in Allbutt and Rolleston's *System of Medicine*, 1911, ix, p. 23.

The disease is found, as a rule, but not always, in nervous, restless, pale children, and is, in a large number of cases (five among the author's thirty), accompanied by bronchial asthma, or asthma-like attacks of breathlessness; these are usually synchronous with the onset of the itching, which is most severe at night time. In one single case reported by Pautrier the asthmatic attacks alternated with the paroxysms of extreme irritation. No typical nor constant blood changes have been found. Several patients were found to be suffering from tuberculosis, in two morbus cordis was present and in one diabetes. In many cases light has apparently been the cause of the outbreak, especially among the female patients, of the diffuse lichenisation of the face and neck, when the disease has many points of resemblance to Hutchinson's prurigo.

Up till the present time the prognosis has been considered to be very bad, though temporary relief can always be produced by ordinary local treatment. The author, however, believes that at least a portion of these patients can be cured by a thorough course of general treatment. Sabouraud, in 1912, pointed out his belief that those cases of prurigo accompanied by asthma may often spontaneously clear up about the onset of puberty, but that other patients who become first affected at about this age may never be cured.

This form of prurigo is distinguished from Hebra's prurigo by the fact that it affects in a typical case just those areas which are usually free in that disease, and differs from recurring eczema by its unlimited duration, and in that the itching is primary and universal, and the localisation, at least in part, is limited to those regions which are exposed to no external source of irritation. This disease is apparently identical with the Dermatomycosis diffusa flexorum of Hans Hebra (1884), though his conception of the ætiology of that disease has been found to be false, and no later observers have been able to find the mycelium recorded by him.

To prevent recurrences the general treatment of these patients is of the greatest importance. Prolonged arsenic treatment appears to have a favourable influence in many cases, but the chief thing is a lacto-vegetable diet, continued for a long time, and perhaps for life. This form of treatment has exerted such a pronounced beneficial effect that it is recommended for trial in all these patients, though some of the long-standing neglected cases appear to withstand it, and others are only benefited so long as this diet is continued.

W. J. O.

MURMEKIASMOSIS AMPHILAPHES. Albert J. Chalmers and J. B. Christopherson (Khartoum). (*Journ. Trop. Med. and Hyg.*, No. 9, May 1st, 1914, p. 129.)

In this communication the authors describe a peculiar form of cutaneous wart characterised by an extraordinary facility for growth. They suggest that the disease may possibly have been seen in England, and point out resemblances to Lilley's case of nævo-carcinoma of the scalp in a boy of nineteen described in the Journal, vol. xxiv, pp. 411–413. The subject of the present paper was a young Arab teacher, aged 16 years, living in a town north of Khartoum. He was in good health, with the exception of an extensive warty growth on the right side of the face, which had begun to develop soon after birth, and had steadily progressed until a considerable portion of the right side of the neck, face, ear, and head was

covered by a thick, mat-like growth of sessile warts, which had not merely involved the upper and lower eyelids on the right side, but had also invaded and destroyed the eyeball. The oral cavity, the right side of the gums, the floor of the mouth, the tongue, and the right tonsil were involved. The larynx and naso-pharynx were free. The patient's skin was dark brown, but the warts, though mostly black, showed patches of brown, green, and yellow tints. Those in the buccal cavity were of a fleshy tint. All the lesions were painless and firm. The lymphatic glands were unaffected, and there were no metastases. The warts were removed by operation in 1910, and no recurrence had taken place.

Pathologically there was an extensive hyperkeratosis and proliferation of the prickle-cell layer of the epidermis associated with a similar process in the germinal layer of the sebaceous glands. The epidermic proliferation produced the warty condition. The extensive development from the sebaceous glands produced a large amount of growth of adenomatous type. This last formed numerous masses of tumour closely packed together, leaving little room for the dermal connective tissue. The authors draw special attention to the degeneration of the hair follicles. No sweat glands and no tactile or other corpuscles were present. The blood-vessels and the lymphatics were very numerous, and in parts dilated. The adenomatous tissue was absent in the lesions removed from the tongue.

The peculiar tendency to spread suggested the action of some slow working causative agent of an infective nature, and in this connection it is interesting to note that organisms were obtained from the warts and from films. With Leishman's and Giemsa's stain roundish bodies with a definite double contour, varying from 1·4 to 2·1 microns in diameter, were found. Some of them showed characteristics of budding yeasts. The authors identify these organisms as belonging to the genus Cryptococcus. The bodies were found in the horny cells, in the papillary processes, in the sebaceous glands, as well as in the epithelium and scrapings from a lingual wart. Drs. Chalmers and Christopherson believe that there must be some causal relationship between the organisms and the growths, and are supported in this view by the absence of Cryptococci from the ordinary Sudan warts, blastomycotic warts, and Leishmania nodules.

The paper is fully illustrated with photographs of the patient and numerous micro-photographs of the sections. J. H. S.

THE ÆTIOLOGY OF TRICHOMYCOSIS PALMELLINA IN THE PHILIPPINE ISLANDS. Otto Schöbl. (*Philippine Journ. Sci.*, June, 1914, p. 219.)

Trichomycosis palmellina was first described by F. J. Pick in 1875. It is usually confined to the axillary regions, but the pubic area may also be affected, and Winternitz reported a case in which the scalp was involved. In the early stage small nodular thickenings of whitish colour are found on the hairs, and in the later stage these thickenings become confluent, and a sheath, evidently of foreign matter, frequently surrounds the hair along its entire length. Pasty matter can be peeled off the diseased hair. The hair tears easily, and partial and temporary alopecia of the affected region may occur. The dark-skinned natives of the tropics are apparently exempt, but the disease is common amongst Caucasians living in the Philippine Islands, and is more frequent in blondes than in brunettes, but occurs in albinos of the negro races. Seasonal variations show

that the perspiration induced by intense heat is an ætiological factor. Gram-positive cocci have been demonstrated by various observers, while Winternitz found a non-motile bacillus. Schöbl found in ten cases several organisms, of which one, the corynebacterium, was constant. A large micrococcus was frequently present, and other micrococci, sarcinæ, and staphylococci were occasionally found. The corynebacterium belongs to the pseudo-diphtheria group of organisms. It was found constantly and in every stage of the disease, and the author believes it to be the "causa lesionis" of Trichomycosis palmellina in the Philippine Islands. Plates illustrating the growth of the bacteria and a section of the invaded hair are appended. J. H. S.

A CONTRIBUTION TO THE BACTERIOLOGY OF LEPROSY. John A. Johnston. (*Philippine Journal of Science*, vol. ix B, No. 3, June, 1914.)

The author remarks that since Hansen announced the discovery of the *Bacillus lepræ* in 1872, twenty-eight cultivations have been recorded, of which twenty were organisms of diphtheroid type, five were rods, and three were *Streptothrix*. None of these organisms has received general recognition. Kedrowski and Bayon alone report animal inoculation in which the lesions bear any pathological similarity to the lesions of human leprosy. The *Bacillus lepræ*, as found in the tissues and juices of the body, is distinctly acid-fast, but of the twenty-eight cultivations reported, only six, four diphtheroid and two rod organisms, were acid-fast in the true sense. From the spleens of two lepers, Johnston cultivated an absolutely non-acid-fast streptothrix, which he was able to grow on placental agar and fish-juice agar. After a time, coccoid and rod-like forms developed, and these were at first non-acid-fast, and at the end of twelve months clumps of distinctly acid-fast bacilli occurred as isolated individuals and rods still enclosed in the parent hypha.

Several forty-eight-hour cultures of the streptothrix were rubbed up in a mortar, and a number of guinea-pigs and rabbits were inoculated with the suspension. One guinea-pig which died eight months after inoculation showed nodules in the liver. Acid-fast rounded masses three to six microns in diameter were obtained from smears from the cut surfaces of these nodules. Similar organisms were found in juice from a leproma, and from scrapings of nasal ulcers in a leper.

In other experiments inoculation with the same streptothrix gave rise to lesions from which acid-fast bacilli were obtained. Bayon and Kedrowski have also injected a streptothrix and obtained an acid-fast rod in cultures. Bayon has also recovered a streptothrix from a rat which had been inoculated with the acid-fast rod.

The author concludes that the *Bacillus lepræ* is the acid-fast stage of a markedly pleomorphic streptothrix. The communication is illustrated by micro-photographs. J. H. S.

A STUDY OF THE GERMICIDAL ACTIVITY OF CHRYSAROBIN AND CERTAIN OTHER MEDICAMENTS USED IN PSORIASIS. Schamberg, Kolmer, and Raiziss. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 1.)

In this contribution certain experiments are recorded which were undertaken with the view of determining the mode of action of chrysarobin and the other efficacious remedies in the treatment of psoriasis, and to discover whether the

beneficial results were produced through a germicidal effect on the skin or through some biochemical action. In this communication the question of the germicidal activity of chrysarobin, sodium chrysophanate, pyrogallic acid, and arsenic is discussed, while the biochemical action of those remedies will be published later.

The following were the conclusions arrived at:

Chrysarobin fails to exert an appreciable germicidal effect on *Staphylococcus albus*, which is usually present in the scales of psoriasis, either in the test tube or in the bodies of animals.

Sodium chrysophanate in saturated aqueous solution possesses no germicidal action on the *S. albus* in the test tube within a period of fifteen minutes; exposed for longer periods, a feeble germicidal activity is observed. Intravenous injections of considerable doses in rabbits are harmless, and exert no restraining influence on the formation of abscesses in the viscera when simultaneous intravenous injections of *S. albus* are given. When administered intravenously in white rats infected with *Trypanosome lewisi*, it exerts no perceptible influence on the trypanosomes.

Pyrogallic acid gave somewhat similar results to chrysarobin.

Arsenic in 1 per cent. aqueous solution possessed no germicidal effect in the test tube on the *S. albus* after fifteen minutes exposure.

Calomel had an absolutely germicidal action in minute quantities on cultures of *S. aureus*, and was capable of destroying the cocci of the skin both on normal skin and on psoriatic patches.

In short, chrysarobin, a drug exhibiting a powerfully beneficial influence on the patches of psoriasis, had extremely feeble germicidal properties, while calomel, one of the best germicides known, had an indifferent effect upon psoriatic lesions.

J. M. H. M.

PRIMARY EPITHELIOMA OF THE HAND. Howard Fox. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 22.)

A case of primary epithelioma of the hand in a man, aged 48 years, is here described. The patient had been bitten on the back of the hand by a horse, which had produced an open wound. This had healed in the course of two weeks, but, six months later, had broken down again, and gradually became epitheliomatous. The lesion was situated on the dorsal surface of the right hand, and extended from the knuckle to the proximal ends of the metacarpal bones. Upon this area were serpiginous, sharply margined, and crusted lesions enclosing a swollen and tender centre. A biopsy was made, and the condition was found to be a typical squamous-celled epithelioma. From there the disease spread, affecting the axillary glands, and finally resulting in a metastatic growth about the œsophagus, which led to a fatal issue.

A study of the literature showed that epithelioma of the hand was a comparatively rare disease; that in the vast majority of cases it occurred upon the dorsal surface; that in spite of being histologically a malignant cancer, it ran a slow and relatively benign course, seldom invading the lymphatic glands; and that the majority of cases developed upon a basis of chronic inflammatory tissue.

J. M. H. M.

THE USE OF CALCIUM LACTATE IN THE TREATMENT OF CERTAIN DERMATOSES. Charles J. White. (*Journ. Cut. Dis.*, vol. xxxii, October, 1914. p. 691.)

The writer has tried the remedy in a thorough manner in the following diseases: Pernio, hyperidrosis, Herpes simplex, Erythema multiforme, urticaria, livedo, purpura, angioneurotic œdema; and gives in this paper the result of his experiences.

In addition to the administration of calcium salts the patients were given food rich in calcium and told to avoid raw fruits and all acid foods. The following table shows the number of grams of calcium oxide in each kilogram, and the foods were chosen with some discrimination from it, as it did not seem wise to include in the dietary of this class of patients such questionable (anaphylactic) articles as egg albumen, orange, cabbage and Swiss cheese.

Grams of Calcium Oxide in each Kilogram.

Meat	0·62	Cocoa	1·15
Potato	0·20	Peas	1·20
Egg albumen	0·20	Beans	1·45
White bread	0·30	Cow's milk	1·51
Orange	0·60	Yolk of eggs	1·90
Cabbage	0·60	Spinach	1·96
Rice	0·78	Butter	3·50
Dates	0·80	Swiss cheese	13·50

The following results were obtained:

Urticaria.—Urticaria, on the whole, did well. Twelve cases showed great improvement, two some improvement, and nine others, not reported, none whatever.

Erythema multiforme.—Seven of this group showed decided improvement, and six exhibited what one might call the normal, although perhaps quickened, evolution of the disease, following the ingestion of the calcium.

Pernio.—In this group of cases six were practically cured in a short space of time, three were decidedly benefited, while three only were not helped at all.

Hyperidrosis.—Four patients were, to all intents and purposes, cured and one decidedly benefited.

Purpura rheumatica.—In this affection it would appear that the calcium failed more often than it helped. J. M. H. M.

PERSONAL OBSERVATIONS UPON SKIN-DISEASES IN THE AMERICAN NEGRO. H. H. Hazen. (*Journ. Cut. Dis.*, vol. xxxii, October, 1914, p. 705.)

The observations recorded by the writer of this article are as follows:

(1) Mulattoes suffer more severely from skin-diseases than do full-blooded negroes.

(2) The following diseases are more prevalent among negroes than among whites: Dermatitis papillaris capillitii, keloids, dry seborrhœa, syphilis, tinea tonsurans, urticaria, and vitiligo.

(3) The following diseases are less prevalent among negroes: Alopecia areata, cancer, dermatitis actinica, acute eczema, erythema multiforme, furuncles and boils, angiomata and nævi, pediculosis capitis, psoriasis, rosacea, sycosis vulgaris, tinea cruris, and xanthelasma. J. M. H. M.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

ERYTHEMAS, INFLAMMATIONS, ETC.

Artificial Dermatitis, A Case of. A. J. Gilmour. (*Journ. of Cut. Dis.*, January, 1915, vol. xxxiii, No. 1, p. 34.)

Body Lice, Biology and Treatment. S. v. Prowazek. (*Münch. med. Wochenschr.*, January 12th, 1915, vol. lxii, No. 2.)

Dermatitis Exfoliativa Neonatorum (Ritter) and its Relation to Impetigo Contagiosa Staphylogenes, Contribution to the Ætiology of. F. Tamm. (*Derm. Zeitschr.*, August, 1914, Heft 8, Bd. xxi, p. 670.)

Diphtheria of the Skin. G. Bertelli. (*Gazzetta degli Ospedali e delle Cliniche, Milan*, December 27th, 1914, vol. xxxv, No. 138, p. 3033.)

Ekthyma Gangrænosum in the Course of Measles. Akira Takahushi. (*Arch. f. Derm. u. Syph.*, August, 1914, Bd. cxx, Heft 3, p. 739.)

Exfoliative Erythrodermia with Tuberculosis, On the Relationship of Certain Forms of. R. Polland. (*Derm. Zeitschr.*, August, 1914, Heft 8, Bd. xxi, p. 665.)

Frost-bite. A. W. Mayo Robson. (*Lancet*, January 16th, 1915, p. 117.)

Frost-bites, The Prevention of. Sheridan Delépine. (*Lancet*, February 6th, 1915, p. 271.)

Grey Hair and Disease limited to Naso-labial Area. G. L. Cheatle. (*Brit. Med. Journ.*, January 2nd, 1915, vol. i, No. 2818, p. 14.)

Hæmorrhagic Encephalitis, brought about by Neosalvarsan. Okard. (*Derm. Zeitschr.*, September, 1914, Heft 9, Bd. xxi, p. 287.)

Herpes Zoster and Herpes Zoster-gangränosus after Salvarsan. Alfred Oettinger. (*Derm. Zeitschr.*, September, 1914, Heft 9, Bd. xxi, p. 780.)

Keloid Formation in the Negro (illustrated). Addison G. Brenizer. (*Annals of Surgery*, January, 1915, pt. 265, p. 33.)

Mongolic "Tache bleue" at Sao Paulo. C. Ferreira. (*Arch. de Méd. des Enfants*, March, 1915, vol. xviii, No. 3, p. 154.)

Parapsoriasis, A Case of. D. E. Cohen. (*Derm. Zeitschr.*, October, 1914, Heft 10, Bd. xxi, p. 839.)

Pellagra in Antigua. W. M. McDonald. (*Lancet*, January 16th, 1915, p. 127.)

Pemphigus complicating Scarlet Fever, Acute (illustrated). J. M. Robertson-Ross. (*Brit. Journ. of Child. Dis.*, January, 1915, vol. xii, No. 133, p. 7.)

Pemphigus in Convalescence from Scarlet Fever, Unexplained Œdema and. R. Loy Wilcox. (*Brit. Journ. of Child. Dis.*, January, 1915, vol. xii, No. 133, p. 9.)

Purpura Annularis Teleangiectodes. G. M. MacKee. (*Journ. of Cut. Dis.*, February, 1915, vol. xxxiii, No. 2, p. 129.)

Raynaud's Disease, An Instance of Asymmetrical. D. W. Montgomery. (*Journ. of Cut. Dis.*, February, 1915, vol. xxxiii, No. 2, p. 119.)

Sarkoid of Boeck, Contribution to the Knowledge of. Ch. Plancherel. (*Derm. Zeitschr.*, August, 1914, Heft 8, Bd. xxi, p. 676.)

Trench "Frost-bite." C. Gordon Watson and C. S. Myers. (*Brit. Med. Journ.*, March 6th, 1915, p. 413.)

Urticaria, Pigmented, On. F. S. Adler. (*Derm. Zeitschr.*, September, 1914, Heft 9, Bd. xxi, p. 761.)

NEW GROWTHS.

Epithelioma of the Hand, Primary. Howard Fox. (*Journ. of Cut. Dis.*, January, 1915, vol. xxxiii, No. 1. p. 22.)

Malignant Disease of the Skin, Treatment of. J. H. Sequeira. (*Brit. Med. Journ.*, February 27th, 1915. p. 365.)

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Soft Fibroma, with Special Reference to Elastic Tissue-Bundles in Epithelium, Contribution to the Genesis of. Carl Lennhoff. (*Arch. f. Derm. u. Syph.*, August, 1914, Heft 3, Bd. cxx, p. 719.)

FUNGUS INFECTIONS.

Blatomycosis (Systemic) (illustrated). Charles A. Powers. (*Annals of Surgery*, June, 1914, part 258, p. 815.)

Mycosis of the Skin from wearing Old Sweaters and Woollen Underclothes, Simulating Psoriasis or Syphilis. Isaac. (*Berl. Klin. Woch.*, November 23rd, li, No. 47.)

Tinea Capitis Tropicalis in an Egyptian Soldier caused by Trichophyton Discoides Sabouraud, 1909. (Illustrations and Bibliography.) Albert J. Chalmers and Alexander Marshall. (*The Journal of Tropical Medicine and Hygiene*, March, 1915, No. 5, vol. xviii, p. 49.)

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A New Reaction of Syphilitic Serum: The Coagulo-Reaction. L. Hirschfeld and R. Klinger. (*La Semaine Médicale*. August 5th, 1914, p. 361.)

Bacillus pyocyaneus to Ulcer Formation, On the Ætiological Relationship of. A. Takahashi. (*Derm. Zeitschr.*, August, 1914, Heft 8, Bd. xxi, p. 702.)

Cholesterin Fat in Subcutaneous Connective Tissue, Experimental Researches on. N. Amlschkow. (*Arch. f. Derm. u. Syph.*, August, 1914, Heft 3, Bd. cxx, p. 627.)

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Purpura, Experimental (Second Communication). J. C. G. Ledingham. (*Lancet*, February 13th, 1915, vol. clxxxviii, No. 4772, p. 311.)

Plasma Cells in Epithelioma of the Skin. Dr. Prytek. (*Arch. f. Derm. u. Syph.*, August, 1914, Heft 3, Bd. cxx, p. 611.)

Some Experiments with X-Ray Filters. J. H. Sequeira. (*Archives of the Röntgen Ray*, January, 1915, No. 174, p. 277.)

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Urticaria, Metabolism Study of a Case of Chronic. Jacob Rosenbloom. (*Journ. of Cut. Dis.*, January, 1915, vol. xxxiii, No. 1, p. 31.)

TREATMENT.

Bromidrosis, Glycerine in, with a Note on Military Needs. T. H. C. Benians. (*Lancet*, December 5, 1914, p. 1301.)

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THE BRITISH
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APRIL, 1915.

TWO CASES OF SCLERODACTYLIA.

By F. PARKES WEBER, M.A., M.D., F.R.C.P.,
Physician to the German Hospital, London.

Case 1. Sclerodactylia of the Feet.

The patient, S. P—,* aged 48 years, a Russian Jew, was an in-patient under my care in July, 1914. He was a tailor by trade, of poor general nutrition. The skin over the toes of both feet was atrophic, shiny, and looking as if were tightly stretched out; it was discoloured by purple mottling. Both feet tended to be cold. There was no anæsthesia. I did not feel any pulsation in either dorsalis pedis artery, nor did I feel any arterial pulsation anywhere in the feet. Pulsation in the femoral arteries at the groin was normal. The calf-muscles were somewhat atrophic, but he said that his legs had always been thin. The tip of the fourth toe of the left foot had been cast off about seven years ago, he said, and the fourth toe of the right foot had been amputated two years later. The second toe of the left foot was partially necrosed (dry gangrene), and some bare bone was projecting at the end where the soft part of the tip had fallen off. There was an ulcer in the atrophic skin over the outer part of the right heel, and over the corresponding part of the left heel there was the scar from a similar previous ulcer. Both feet were stiff and of somewhat flat-foot shape. Dr. James Metcalfe, as a

* This patient was shown at the Clinical Section of the Royal Society of Medicine, on March 12th, 1915.

result of examination by Röntgen-ray skiagrams, reported (July, 1914) that there seemed to be some decalcification of the bones in the feet and partial ankylosis of the joints. The knee-jerks on both sides were rather exaggerated; no plantar reflexes could be obtained. The blood-serum gave a negative Wassermann's reaction for syphilis, and there was no history of previous syphilis or of alcoholism.

The patient had been accustomed to smoke about twenty-five cigarettes a day. He had enjoyed good health until about 1907, when superficial gangrene commenced on the fourth toe of the left foot, and the tip of the toe was thrown off. Half a year later the left great toe gave him trouble, and an in-growing (?) toe-nail had to be removed. In 1909 the fourth toe of the right foot became diseased and was amputated, with good result. Then, for a long time he had no fresh trouble with his feet, but about six months before admission an ulcer appeared on the outer side of the left heel. This healed up after three months, but then a similar ulcer developed on the right heel, which was still present on admission. The gangrene in the second toe of the left foot had commenced about two months before admission, and had been treated with hot fomentations. The patient had never observed any definite "intermittent claudication" in the lower extremities.

The arteries of the upper extremities and his brachial blood-pressure appeared normal.* Apart from the condition of the feet there was nothing special (including ophthalmoscopic examination) to be noted, excepting that the patient suffered from pyorrhœa alveolaris.

In the hospital my surgical colleague, Mr. A. Compton, kindly amputated the second toe of the left foot at the metatarso-phalangeal joint, and, owing to the defective blood-supply to the part, there was hardly any bleeding at the operation. The wound healed up slowly, and he was able to get about again. His teeth were extracted on account of the pyorrhœa alveolaris. As a medicine he was given syrup of iodide of iron. However, since leaving the hospital (in December, 1914) he has suffered from great pain in the region of the right big toe, where recently there has been slight superficial ischæmic ulceration. (Ischæmic ulceration is practically always accompanied

* The brachial systolic blood-pressure is about 145 mm. Hg., but is very unstable, varying considerably even within a few minutes.

by much pain.) He is now markedly anæmic, and shows a polymorphonuclear leucocytosis. A blood-count (March 8th, 1915) gives: red cells 2,600,000 and white cells 35,600 to the cubic millimetre of blood; hæmoglobin 60 per cent. Of the white cells 74 per cent. are polymorphonuclear leucocytes.

Case 2. Sclerodactylia of the Hands, with Generalised Atrophic Sclerodermia.

The patient,* Mrs. B. T—, aged 44 years, a Jewess, is a rather slender woman of medium height. She presents a condition of symmetrical very chronic typical atrophic sclerodermia, involving her face, neck, and hands. The face, neck, and region of the clavicles are covered by atrophic, tightly-stretched skin, marked by numerous blotchy and fine branching telangiectases, and showing characteristic pigmentary changes on the neck and about the clavicles. The hands are, however, much more severely affected by the disease, and furnish the characteristic picture of a late stage of *severe atrophic sclerodactylia*. The livid, shiny, atrophic skin is tightly contracted about the bones of the fingers, which are more or less fixed in various positions of contracture. She frequently suffers from superficial indolent ulcers (caused by any slight traumata) over the knuckles of the fingers. These ulcers are very painful, and very slow to heal. There is no decided sclerodermia of the feet; that is to say, the disease in the feet has not yet reached the contracted, cicatricial or atrophic stage, like it has in the hands; but the toes and distal portions of the feet tend to be livid and cold, and at present she is suffering from a superficial indolent ulcer over the left heel, which gives her much pain. She suffers also from occasional pains elsewhere in the limbs, but those associated with superficial ulceration on the heel and fingers are at times very severe, and often give rise to sleeplessness at night (like most kinds of "ischæmic" ulceration of the extremities do). Her pains are, however, she says, temporarily relieved by taking aspirin. I cannot feel any pulsation in the dorsalis pedis artery of either foot. Both radial arteries and both radial pulses seem to be normal. The brachial systolic blood-pressure, estimated in October,

* This patient was shown at the Dermatological Section of the Royal Society of Medicine, on March 18th, 1915.

1912, was just over 100 mm. Hg. in both arms. Roentgen ray skiagrams, taken by Dr. N. S. Finzi in October, 1912, showed decided general atrophic changes in the bones of the face and considerable atrophy of the finger-bones, especially of the terminal phalanges, almost all of which were shortened by actual disappearance of their tips. The patient's blood-serum, in December, 1912, gave a negative Wassermann reaction for syphilis.

According to the patient herself, her illness commenced when she was thirty-two years of age, after the birth of a still-born child. This was her fourth child. Her first two children are living and healthy, aged 17 and 16 years respectively; her third, fifth, and sixth children died in infancy. She has had no other children and no miscarriages. Her husband is a healthy-looking man, who says that he has never had any kind of venereal disease.

I have had an opportunity of examining the patient during the past ten or eleven years on various occasions, when she was an in-patient at the German Hospital under the care of my colleague, the late Dr. K. Fürth. Thyroid treatment and subcutaneous injections of fibrolysin have been tried, but with doubtful results. Local hot baths were probably more useful. When I saw her about 1904, before obvious sclerodactylia had developed, some of her fingers used occasionally (for a few days at a time) to have a swollen, shiny, slightly bluish appearance—a condition that might be termed "bluish acro-œdema," perhaps allied to the *œdème bleue* of Charcot.

Remarks.

The mode of commencement of the disease is perhaps one of the most interesting features in the second case, which in many respects resembles that of a young woman, shown in 1901 by H. D. Rolleston and S. Vere Pearson before the Clinical Society of London (*Trans. Clin. Soc. Lond.*, 1901, vol. xxxiv, p. 215), and shown again in 1909 by H. D. Rolleston and G. D. H. Carpenter before the Clinical Section of the Royal Society of Medicine (*Proceedings*, 1910, vol. iii, p. 32), under the heading "Sclerodermia with Sclerodactyly."

It is highly probable, in cases of sclerodactylia of the feet, that (even in cases in which no pulsation in the pedal arteries can be felt) if one could examine small arteries such as the internal plantar

and dorsal arteries of the foot, no true Endarteritis obliterans, nor thrombosis, would be found, but only contraction and thickening (not merely apparent thickening) of the arterial middle coats.* At all events, that would best accord with what I found in the subsequent examination of the amputated foot of a young man, whose case I had described in the *British Journal of Dermatology*, 1901, vol. xiii, p. 41, under the heading, "Trophic Disorder of the Feet—an Anomalous and Asymmetrical Case of Sclerodactylia with Raynaud's Phenomena." I reported † as follows: "Microscopical examination of a portion of the chronically cyanosed skin from the foot showed great thickening of the walls of the arterioles. Examination of portions of the internal plantar and dorsal arteries of the foot showed decided thickening of the middle coat, but no endarteritis nor thrombosis. Microscopic preparations were made of the extensor brevis digitorum muscle, and characteristic appearances of ischæmic myositis were found, with great thickening of the intra-muscular arterioles, interstitial fibrotic increase, decided numerical excess of connective-tissue nuclei, and atrophic changes in some of the muscle fibres. Dr. F. E. Batten, to whom I was likewise indebted for some beautiful muscle preparations, kindly examined the nerves, and tells me he found nothing abnormal. The skeleton of the foot was found to share in the atrophied condition."

Some of the cases of "trench frost-bite" or "trench foot" (French, *mal des tranchées*) amongst the soldiers in the present war seem to present striking analogies with the condition of the foot in cases of sclerodactylia, especially with cases accompanied by a tendency to superficial gangrene, but before the atrophic (contracted) stage of the disease in the foot has been reached. The great ætiological difference between the two seems to lie in the fact that in the former (trench frost-bite) the immediate exciting cause is a powerful and obvious one, whereas in the latter (sclerodactylia) the constitu-

* Since this article was written the right great toe of one of the present patients, S. P—, has had to be amputated owing to intolerable pain connected with the ischæmic ulceration. Microscopic examination of a small artery in the amputated toe shows decided thickening of the arterial middle coat—a true hypertrophy, or rather, hyperplasia, of the unstriped muscle elements, not merely an apparent thickening, such as might be due to contraction occurring during the process of preparing the specimen. (*Note added March 27th*, 1915.)

† F. P. Weber, "Sequel of a Case of Trophic Disorder of the Feet," *Brit. Journ. Derm.*, 1902, vol. xiv, p. 388

tional factor is apparently the main one, the immediate exciting cause being generally slight or obscure. There is naturally a corresponding difference in regard to prognosis. The greater the constitutional factor and the slighter and more obscure the exciting cause, the less favourable is the course of the disease likely to be. It is, however, possible that ultimately sclerodactylia will be found to be connected with some morbid action of the ductless glands, or with the prolonged presence of some ergot-like toxin, either taken unknowingly with the food or manufactured constantly in small quantities within the patient's body (in his alimentary canal or in his metabolic organs). In this connection it should be remembered that symmetrical sclerodactylia may occasionally arise, in association with sclerodermia of the face or other parts, during early childhood, or even during intra-uterine life.

CLINICAL NOTES.

NOTE ON A CASE OF ACUTE DERMATITIS DUE TO COPRA DUST.

By J. M. H. MACLEOD, M.D.

Recently a middle-aged man, a waterside labourer, presented himself at Charing Cross Hospital suffering from an acute dermatitis of the face, backs of the hands, and forearms, which he attributed to the irritation caused by copra dust. He had been employed for several days unloading a barge of broken cocoanut or copra, a good part of which was rotten, and which, on being stirred up and stacked, was hot and steamy and emitted a fine brown dust. He finished the unloading on a certain night, and next morning the dermatitis was marked on his face and hands. Nine men were similarly employed, and of these six were affected, but, according to the statement of the patient, none so severely as himself. This he explained as due to his being more exposed to the fine dust than were the others.

The dermatitis was specially acute on the face, which was swollen and erythematous, with marked œdema about the eyelids, and a

feeling of tension and extreme discomfort. The backs of the hands and forearms showed an eczematous dermatitis with closely aggregated papulo-vesicles, forming, here and there, weeping patches.

The dermatitis on the face looked as if it might have been caused by the dust from the dry and decomposing cocoanut, while that on the hands and forearms might have been due to the copra-itch mite (*Tyroglyphus longior*). Unfortunately none of the dust or copra was obtained to examine for the parasite.

A CASE OF MICROSPORON TINEA OF THE SCALP IN AN ADULT.

By W. J. OLIVER, M.B.,
From the Skin-Department, London Hospital (Dr. J. H. Sequeira).

Mrs. B—, aged 32 years, first attended the Skin-Department of the London Hospital on January 26th, 1915. She complained of an itching of the head, which she had first noticed in September of last year. Since that date she had been regularly attending another hospital for the same complaint, and had been treated with "an ointment containing iodine" for the condition, which had been diagnosed there as ringworm, when she had had red patches all over the scalp. She had cut her hair quite short about the end of November. She had always had a scurfy head, and her hair had been falling for the last five years.

On her first attendance at the London Hospital she brought her three children, all of whom had Tinea capitis (showing a microsporon fungus), which condition had dated in the oldest case from July, 1914. The affection had first been noticed on this child's scalp as a "patch of dirt" which the mother had tried to wash off with a piece of flannel, using the same material later on her own and the other children's heads. In August the same child had had red rings on her chest, and the hair had begun to fall in September about the same time as red rings appeared on the heads of the two other children, and when a small area of red spots was noticed on a fourth child's scalp. The whole family had attended the same hospital for ringworm since that time (September, 1914) until January of this

year, and had been treated with ointment without showing much improvement. When first seen in January at the London Hospital the three children were all ordered X-ray treatment. The mother was ordered a mercurial ointment, and the condition improved. The hair was allowed to grow again, but the irritation returned in March.

On March 26th, seven areas showed hair cut short on account of irritation. One of these, the same as on the previous visit, showed no scaling, but definite broken stumps which contained the microsporon seen in the stained specimens. No short broken hairs were recognised on any of the other six areas, nor was any fungus found in the few short hairs removed from some of these same areas. One of the children treated with X-rays at the end of January showed on this date a round, scaly, dry lesion with a red narrow border on the right forearm. This, according to the mother's statement, had commenced as one red ring inside another.

On March 27th, tubes of 4 per cent. glucose and maltose agar were inoculated with some of the stumps removed from the patient on the previous day, and also with hair taken from one of the children (the first one to become affected) on her first attendance in January.

On April 6th, when next seen, all the tubes, save one glucose tube, showed definite growths about the sites of inoculation consisting of a small raised white "fluffy" central tuft with a narrow border of ill-defined surface growth.

On April 12th, cultures from the child's head showed a "downy" surface growth with a more "woolly" central tuft. Cultures from the patient showed a rather flocculent white surface growth about a more raised central tuft.*

The growths are evidently of an animal microsporon, the *Microsporon felineum.*

Microsporon ringworm is apparently very rare in the adult, but Dr. MacLeod showed cases in mother, aged 23 years, and child (*Brit. Journ. of Derm.*, xxiii, p. 84), and in the debate on those cases some other instances were mentioned.

* The cultures were shown at the Meeting of the Dermatological Section of the Royal Society of Medicine in April, and the opinion as to the nature of the fungus was confirmed by Dr. MacLeod.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held on Thursday, March 18th, 1915, Dr. J. J. Pringle, President of the Section, in the Chair.

Dr. J. H. Stowers showed two cases of *alopecia in children due to over-dose of X-rays*. The patients exhibited were two male patients, brothers, aged 11 and 4 years respectively, who had been subjected to X-ray treatment for Tinea tonsurans by an electrician holding no medical qualification. Pastilles were used, and the exposures were stated not to have exceeded an hour, but dermatitis followed. Although five and a half months had elapsed since the treatment, considerable bald areas remained upon the scalp of each child, which, in the exhibitor's opinion, were likely to be permanent.

The cases were instructive as indicating the extreme importance of guarding against excessive exposure, and especially when it was remembered that the scalps of some children were less tolerant of the effects of X-rays than others, constituting one of the difficulties of dermatological practice.

The cases were sent by a medical practitioner to Dr. Gray for an opinion and, in his absence, were seen by Dr. Stowers.

Dr. Dudley Corbett said the amount of damage varied in different regions of the scalp in both cases. In the more shiny parts he did not expect any re-growth; but such was possible where the scalp was less damaged and more freely movable over the underlying tissues. He had treated two or three such cases by means of the mercury vapour-lamp, and there was certainly some improvement in the texture of the areas of scar tissue, and some re-growth of hair over the less damaged areas. These accidents, he thought, were partly due to the employment of soft tubes.

Dr. Sibley thought it was too soon yet to give a positive opinion as to the likelihood of re-growth of hair. He had seen alopecia persist for many months after the application of X-rays, and then re-growth occur. In those parts where there was cicatricial tissue he did not think there would be re-growth, but in other areas it might take place. He recently had a case at the hospital of alopecia following ringworm two years previously. No X-rays had been applied in that case, and he remarked that if X-rays had happened to have been used on that head all the delay in re-growth would have been attributed to that agent. In one of the cases shown there was scarring and telangiectasis, which rendered recovery improbable; but the hair might reappear on the other areas.

Dr. G. Pernet said he saw not long ago a case in which X-rays had been applied and alopecia persisted for a considerable time, but eventually there was re-growth. There was not any shininess of the scalp, however. He agreed that the outlook in the present cases, as far as the shiny cicatricial areas were concerned, was bad, but the other areas might recover to some extent. He advised a stimulating lotion.

Dr. J. A. Nixon showed a case of *cotton-seed dermatitis*. Workers in certain kinds of grain were known to be liable to an eruption which was believed to be caused by a "mite" called *Pediculoides ventriculosus*. Barley appeared to be the particular grain which harboured this insect, so much so that the disease was commonly called "barley itch." The exhibitor had recently seen a similar complaint attacking workers in cotton seed. In January, 1915, he was consulted in reference to an outbreak of an irritable rash amongst some of the dock labourers in Bristol. The only labourers affected were said to be engaged in unloading a cargo of cotton seed consigned from Alexandria to Bristol. After several unsuccessful attempts he was fortunate in seeing a man whose eruption had only just appeared, and which still remained unaltered by scratching and secondary infection.

T. P—, a healthy dock labourer, aged 42 years, had enjoyed good health all his life, and had only drawn six weeks' sick pay from his club in fourteen years. He was not liable to food rashes, and presented no signs of scabies or body-lice. His history of the present condition was that three days before seeing the exhibitor he had been at work unloading a cargo of cotton seed (in bulk) from Alexandria. Within a short time of starting work on the cotton seed the patient began to feel some irritation about the neck and arms. This irritation increased, and became most severe during the following night when he got warm in bed. At first no rash could be seen, but towards evening a series of red spots, about the size of mosquito bites, appeared at the site of the irritation. Some of the spots developed "bladders" upon them which burst and discharged a watery fluid. He had previously had similar attacks, the first occurring some four or five years ago, but the present attack was the worst he had suffered from. The patient stated that he had developed a somewhat similar eruption from working in "itchy" barley.

The rash died out in a week if not renewed by continued work in

the "cotton seed," or unless it was "scratched and poisoned," when a "sort of eczema set in." The rash did not appear on the covered parts of the body. The spots were not transient or recrudescent. There must be actual contact with the seed before the itching started; mere entrance into the place where the seed was stored did not cause any itching. It was only certain cargoes of cotton seed which were "itchy"; the men thought that the "itchy" cargoes were those which came from Alexandria; there had been no complaints with those from Smyrna. But cotton seed if in bags did not seem harmful; it was only when handling cotton-seed cargoes "in bulk" that the "itch" occurred. Of fifty men working on this cargo about two-thirds had been attacked.

The eruption consisted of sparsely distributed isolated urticarial papules situated chiefly on the neck and forearms with a few papules on the legs. Each papule was pinkish-red in colour, hard, raised, and about the size of a pea. In its general appearance the rash resembled a moderately severe attack of Lichen urticatus in a child. There were no burrows of the *Acarus scabiei* to be seen.

A microscopical examination of the cotton seed showed that the dust was infested with a living parasite closely resembling if not identical with *Pediculoides ventriculosus* as described in Stelwagon's *Diseases of the Skin*, and in Dr. Shipley's articles on "Insects and War" in the *British Medical Journal*. *Pediculoides ventriculosus* was held to be the cause of "barley itch," and Dr. Nixon thought it would be proved that the parasite exhibited that evening, and at present unidentified, was the cause of the papular urticarial eruption described under the name of "cotton-seed dermatitis."

Dr. W. D. Henderson, Lecturer in charge of the Department of Zoology at the University of Bristol, thought that the "mite" found in the cotton seed submitted for examination seemed to be very closely allied to the *Pediculoides ventriculosus*, but he very much doubted if it was identical with it. His report ran as follows: "The animal is elongated and flattened dorso-ventrally, with an average length of 0·165 mm. and an average breadth of 0·068 mm. It is sharply pointed at the anterior end and more rounded at the posterior end, and has four pairs of walking legs. The cephalothorax is marked off from the abdomen by a slight groove, and increases in size from before backwards. The two anterior pairs of walking legs rise at some little

distance apart, but the two posterior pairs, which rise close together, are at a considerable distance from the anterior pairs. The first pair of walking legs differ slightly from the posterior pairs in its distal joint. The three posterior pairs of legs are apparently seven-jointed, and

A. Dorsal aspect. B. Majority of specimens found in this condition. C. One of the posterior walking legs. D. Anterior end of mite showing a stylet-like projection.

the tarsus is markedly more slender than the other joints and has its terminal portion in the shape of a small cone-like structure. About half way up the tarsal joint there is a pair of peculiar lateral outgrowths which gives the tarsus a †-shaped appearance. Each of the joints of the legs seems to carry only a pair of stiff hair-like bristles. The first pair of walking legs differs in the following way from the others: The terminal joint does not end in that peculiar cone-like structure, nor

has it the lateral outgrowths; it ends in a claw-like structure. The penultimate joint also carries a larger number of hairs than any of the proximal joints, and certainly a larger number than any of the joints of the other three pairs of legs. The cheliceræ are apparently reduced to stylet-like structures which are capable of protrusion. The pedipalps are also greatly modified and partially fused with the maxillary plate, but they terminate in a hard claw-like lip. There are two well-marked tracheæ which are arranged near the lateral margins. Near the anterior end, close behind the base of the pedipalps, rising near the basal joint of the anterior pair of walking legs and running obliquely forwards till they reach the exterior, there is a pair of peculiar channel-like structures which may be only a modified portion of the tracheal system or may be the pseudo-stigmatic organs. With reference to the internal structure, I should not like to give any definite details, as all the specimens were dead when they reached me. Another point which I am still doubtful about, is the exact number of hairs borne on the body. As far as I can judge at present there seems to be from three to five pairs. The males are much shorter and broader, but there was not a very good specimen, so the description must wait till more fresh material is procurable."

Dr. Shipley has kindly presented a specimen to Mr. C. Warburton, who writes of it thus: "I think Mr. Nixon may have got the culprit. It is so excessively small that unless alive it would be very hard to find. His mite is one of the Tarsonemidæ. Banks* quotes Karpelles as saying of a mite of the same group infesting barley in Russia, 'The men had been handling barley and the mites spread from this to the hands, when they caused an irritating inflammation of the skin so intense as to force the men to leave their work.'"

Dr. A. Whitfield showed an *acarus from a case of copra itch*. He said that he was sorry that he was unable to show the patient, but the disease disappeared very rapidly under treatment. He was not previously aware that the disease occurred in London, and he had been surprised that cases had not been shown by those in charge of the Dermatological Departments at either the London or Guy's Hospital, as their practice would naturally bring them more into contact with dock labourers than those farther west.

* *Treatise on the Acarina*, p. 77.

The patient in his case was a stevedore, who had had two attacks. The rash was generalised all over the trunk and extremities, but did not affect the face. It was very much like that described by Dr. Nixon, and consisted of numerous single and grouped follicular papules, so that at a casual glance it looked like seborrhœic eczema. By the kindness of Dr. Corner he had been able to obtain some of the copra. The acarus was not found all over the surface of it, but there were small eroded cavities in the pulp in which the acarus was to be found, and which were evidently eaten out by the acarus. It was difficult to mount a very satisfactory specimen, as the material was so greasy, and the acarus was very delicate. Eventually under a low power he had been able to isolate the specimen shown, but in doing so he had broken off a leg or two. He had found the disease described in no text-book that he had referred to for it.*

Dr. Graham Little pointed out that Castellani had described in detail† a very similar if not identical acarus in copra, which was responsible for eruptions in workers in that material, and the entomology of the parasite had been successfully established.

Dr. J. M. H. MacLeod said that he had seen a case of copra dermatitis at Charing Cross Hospital about a month ago in a man who was unloading copra which he said was much decomposed, and, when turned over, emitted a cloud of fine dust. On the face there was an acute erythematous condition, with swelling of the eyelids, while on the hands and arms there was a papulo-vesicular dermatitis, the lesions being irregularly distributed, some discrete, others clustered or aggregated into crusted patches. (A note on the case had been sent to the *British Journal of Dermatology* previous to the meeting.) Referring to Dr. Nixon's case, Dr. MacLeod said that about eighteen months ago a number of cases of dermatitis had occurred in men unloading a cargo of cotton seed at the London docks. The outbreak was investigated by his colleague, Colonel Alcock, of the London School of Tropical Medicine. The dermatitis somewhat suggested the lesions of Lichen urticatus. An examination of the cotton seed revealed numerous small caterpillars of the cotton moth (*Gelechia gossypiella*). Living on these caterpillars were small mites, which Colonel Alcock recognised as the *Pediculoides ventriculosus*, the parasite of grain-itch, and he considered that the dermatitis was due to this mite. He believed that its presence on the cotton seed was contingent on the presence of the caterpillars on which it was a parasite.

* *Postscript by Dr. Whitfield.*—Subsequent to the meeting, at the suggestion made by Dr. Little at the meeting, he had consulted Castellani's book, and found an accurate description of the disease and figures of the parasite. The latter was evidently identical with that shown by Dr. Whitfield, and was classified by Castellani as *Tyroglyphus longior gervais*, var. Castellani.

† *Brit. Journ. Derm.*, 1913, xxxv, p. 20.

Dr. George Pernet showed a case of *severe "blood mixture" eruption in a patient with primary syphilis.* The patient was an ill-nourished man, aged 40 years, who first attended at the West London Hospital on February 12th, 1915, for a severe characteristic iodide eruption of the face mainly. The lesions were large and raised, mixed up with smaller typical ones. When asked if he had taken any "blood mixture," the patient admitted he had taken two bottles of Clarke's Blood Mixture for some spots he had on the face. According to Martindale's *Extra Pharmacopœia,* this nostrum contains 52·5 gr. of iodide of potassium to 8 oz., so he had taken some 100 gr. of the drug. On examining the patient, a primary syphilitic sore of the end of the prepuce, giving rise to a phimosis, was discovered. Numerous *Treponemata pallida* were found on examination of the sore. The Wassermann reaction was found to be positive (Dr. Elworthy, Pathologist to the West London Hospital). The patient was warned to take no more blood mixtures. Neo-salvarsan 0·4 was ordered, and circumcision recommended to start with, but the patient did not present himself again till March 2nd. On March 3rd the neo-salvarsan was administered. There was nothing wrong with the urine. Now the iodide lesions had flattened down considerably, leaving marked pigmentation, a common event in such cases, apart from arsenic. The neo-salvarsan had probably acted beneficially on the drug rash.

Dr. A. Whitfield said he did not doubt the condition was an iodide rash, because the nodules on the face were very large ones. Syphilitic nodules of that size would have left marked atrophy, whereas iodide, unless the rash was very suppurative, left extraordinarily little change in the skin.

The President (Dr. J. J. Pringle) said it was remarkable that such cases were not more frequently seen, as the sale of Clarke's Blood Mixture was very large. He did not doubt that the rash on the face was due to an iodide: the deep pigmentation was peculiarly characteristic of such an eruption, during its involution.

Dr. F. Parkes Weber asked whether it was usual for iodide, apart from syphilis, to cause such a degree of purpuric erythema and pigmentation. He suggested that the peculiar eruption in this case was partly due to secondary syphilis.

Dr. Eddowes said if the patient had had arsenical preparations the pigmentation might have come about in that way. He had seen a case of acute secondary syphilis mistaken for psoriasis, and arsenic had been given in the usual routine way by a practitioner. The result was that every lesion became deeply pigmented, and it took a long time for the colour to disappear. It also set up acute paronychia and aggravated the eruption.

Dr. PERNET, in reply, said that the man had not, when seen, taken any other medicine than Clarke's Blood Mixture. He had 0·4 of neo-salvarsan on March 3rd, but the pigmentation was then established. There was nothing wrong with the urine.

Dr. GEORGE PERNET also showed a case of *Erythema induratum of Bazin*. The patient was a small, overworked girl, aged 15 years, who attended the West London Hospital. She began five weeks previously to suffer from aching in the legs. When first seen there was a typical eythematous, indurated condition of both calves, which could still be felt, though the condition had much improved, as the patient had been put on less laborious work with opportunities of rest, and she had been taking syr. ferri iodidi since first seen on January 22nd. There was no history of phthisis and no chilblains, but the circulation was below par, exhibiting itself in an Erythema marmoratum of the front of legs and bluish hands.

The PRESIDENT said the case was a very characteristic example of a familiar condition. He exhibited the first typical case he had seen in a girl, aged 14 years, to the Dermatological Society of London in January, 1890 (before its Proceedings were published), and again in January, 1895,* when the lesions had ulcerated. Although the nature of the disease was even then quite clearly recognised by dermatologists, his surgical colleagues refused to accept any diagnosis other than that of syphilis. The classical papers on the subject by Hutchinson† and Colcott Fox‡ among British observers, were doubtless well known to all members of the Section, and had popularised expert knowledge of the subject among the profession, by whom it was now almost universally recognised.

Dr. GRAHAM LITTLE said he had at St. Mary's Hospital at present a very similar case, also in a young girl, aged 14 years, with more numerous lesions scattered over the front and back of the lower third of the legs. The *induration* area had materially diminished as a result of rest in bed. This patient had given a marked reaction to a test inoculation of tuberculin, for after the injection of ½ c.c. of old tuberculin the temperature had risen to 103° F.

Dr. W. KNOWSLEY SIBLEY showed a *case for diagnosis* (*? a tuberculide*). The patient was an unmarried servant girl, aged 18 years, whose parents were living and well. She was the fourth of the family, and had three brothers and four sisters, all of whom were healthy. There was no history of consumption in the family. The

* *Brit. Journ. Derm.*, 1895, vii, p. 28.
† *Arch. of Surg.*, July, 1893.
‡ *Brit. Journ. Derm.*, 1893, v, p. 225.

disease commenced on the upper lip two years ago, and was stated to have followed a cold, with discharge from the nostrils, after an operation for adenoids. Small dull red papules first appeared on the upper lip; these after a time slowly spread towards the cheeks, and afterwards appeared on the tip of the nose. For some months they had remained more or less stationary, and had never suppurated or broken down and ulcerated.

On examination, there was some slight seborrhœa capitis and a few small comedones on the face. The papules were very hard to the touch, markedly raised, and were arranged singly and in groups, being especially abundant on the upper lip, and irregularly symmetrical on the cheeks and on the tip of the nose and the free margin of the alæ nasi. They were very prominent and superficial, of a dull red colour, with a yellowish glistening surface, and varied in size from a pin's head to a small pea. Under pressure with a glass they revealed greyish-yellow foci. Many of the older ones showed a distinct puckering with a tendency to a central depression and a dilatation of the superficial blood-vessels, with some slight scaling on the surface. A few had disappeared and left small atrophic scars. The whole upper lip was slightly thickened, and there was some excoriation and fissuring of the vermilion. The glands of the neck were slightly enlarged. The von Pirquet reaction was negative on three occasions.

The patient had now an acute attack of lymphangitis of the face. She stated she had previously had a similar attack.

The blood-count was as follows: Red blood cells, 4,800,000 per cubic millimetre; white blood cells, 5200 per cubic millimetre. (There were no abnormal red blood cells.) Differential leucocyte count as follows: Polymorphonuclear cells, 61·5 per cent.; lymphocytes (large) 7·5 per cent., (small) 29·5 per cent.; eosinophiles, 1 per cent.; basophiles, 0·5 per cent. The count showed a lymphocytosis, and a slight diminution in the polymorphonuclear leucocytes.

Section of small nodule taken from the face: The epidermis was practically normal, except over the diseased area, where it was very thin and flattened out. In the dermis there was a nodule, which was composed of badly stained epithelial cells, separated by bands of fibrous tissue; there were also a few giant cells present. The whole nodule was more or less surrounded by fibrous tissue. The upper portion of the dermis outside of the nodule was infiltrated chiefly

with lymphocytes. There were no plasma cells nor mast cells to be seen. The vessels showed a marked dilatation.

Dr. Adamson thought the clinical and microscopical appearances were those of a typical Lupus vulgaris. The case was a severe form of that type in which there appeared rather suddenly a shower of "apple-jelly" nodules on the skin of the nose and adjacent parts of the cheeks, and in which the prognosis was usually very unfavourable. He regarded the swelling of the cheeks and eyelids as due to a secondary streptococcal infection.

Dr. Whitfield agreed with Dr. Adamson that this was true lupus, with probably streptococcal lymphangitis. He had a figure of such a case in his book, who also had recurrent syphilis and scattered nodules. His opinion was that the streptococcal lymphangitis spread the disease a little each time it occurred. The scattered type was very apt to be secondary to a primary focus elsewhere, and it would be interesting to know what was the condition in the nasal cavity. The section seemed to be typical lupus, though he did not know that one could swear to tubercle on microscopical examination only. There were ill-formed giant cells, and, what was characteristic of tuberculosis, commencing degeneration. He considered this case belonged to the endothelial type of lupus.

Dr. Dore asked whether Dr. Sibley had examined the gums, as he thought they were affected with characteristic Lupus vulgaris.

Mr. McDonagh said he considered the case was one of Lupus vulgaris—that is to say, a case in which the bacilli themselves were present, in contradistinction to a lesion caused by their toxins. The microscopical section he saw, which the exhibitor had sent to him for an opinion a few weeks previously, was doubtless external to a papule, as it did not show the characteristics of either tuberculous or any other inflammation. One could only say from the section examined that it was from a case of chronic inflammation.

Dr. Douglas Heath said that while agreeing that this condition was tuberculous, he dissented from the view that it was common to see such superficially set lupus. He agreed that a nodular condition was met with, particularly in lupus of the nose, but in the present case the nodules were more superficial than usual.

Drs. S. E. Dore and S. A. Kinnier Wilson showed a *case for diagnosis*. Dr. Dore said that the patient, a man, aged 54 years, was sent to his department at Westminster Hospital, suffering from pain and swelling of the fingers and toes, and changes in the nails, and as there was not much to found a diagnosis upon from a dermatological standpoint he asked his colleague, Dr. Kinnier Wilson, to see him. The latter found the patient had well-marked thermo-anæsthesia of the toes, feet, and half-way up the legs, and suggested the diagnosis of lepra. The patient's history was as follows: He was born in Kent of healthy parents. In the year 1888 he visited South Africa on two occasions, spending about fifteen months there altogether. From

1889 to 1893 he was employed as a steward in the P. and O. Steamship Company, and travelled to and from India, staying about three weeks on shore, usually at Calcutta or Bombay, at each visit. His symptoms dated from eighteen months ago, when he noticed a swelling under the nail of his left index finger which he attributed to pressing down hot tobacco in his pipe. About the same time the nail of the middle finger became affected and both fingers were swollen and painful, especially during cold weather. Two months later he complained of "itching down the spine," followed by similar symptoms in the toes, and blisters appeared between the latter. By slow degrees all the finger nails of both hands became affected, with longitudinal splitting of the nail substance, the fingers themselves being blue, tender and œdematous, with marked thickening of the skin over the first phalangeal joints and great sensitiveness to cold. The toes were affected in a similar manner, but to a less degree. The patient had also suffered from pain in the chest and back and left shoulder. The result of the Wassermann test had not yet been obtained, but the exhibitor thought that a positive reaction would be a strong point in favour of lepra as against syringomyelia. Unfortunately, Dr. Kinnier Wilson was unable to be present, and a complete account of the nervous symptoms was therefore not forthcoming.

The PRESIDENT said the evidence in favour of the diagnosis of leprosy appeared to him rather scanty. He had seen an identical condition of nails in a case which his neurological colleagues diagnosed as syringomyelia. But he was quite open to conviction.

Dr. WHITFIELD said that if the Wassermann test was positive, it was an important point. He thought the man should be given a tuberculin injection, because if that proved positive also, the case was very likely one of lepra in the absence of obvious signs of tubercle. He had asked the patient if he had had burning, and he said he had a sensation in his fingers as if he had plunged his hand into a bed of nettles. That gave an extraordinarily good representation of the sensation experienced in lepra; he did not know whether it occurred also in syringomyelia.

Dr. F. PARKES WEBER thought the only alternative to the diagnosis of anæsthetic leprosy would be "Morvan's type of syringomyelia." Working in Brittany, in 1883, Morvan described a trophic disorder of the extremities associated with the formation of painless whitlows and areas of analgesia. When he (Dr. Weber) was attending Charcot's demonstrations in Paris, it had been definitely agreed that the so-called "Morvan's disease" was to be called "the Morvan type of syringomyelia." This had been settled by Charcot, Marinesco, Jeanselme, and others, in spite of Zambaco's suggestion that Morvan's cases were sporadic examples of attenuated leprosy occurring in Europe. In one or

two of Morvan's original cases in which a post-mortem examination had been made no evidence of leprosy had been found. In the present case the fingers did not seem to be sufficiently bulbous to accord with the typical "Morvan type of syringomyelia." Moreover, the patient had never had "painless whitlows" such as Morvan described. His ulnar nerves at the elbows were perhaps slightly thickened, as in some cases of leprosy.

Dr. PERNET thought the case sufficiently important to ask for it to be brought forward again, when perhaps Dr. Kinnier Wilson could be present.

Dr. H. G. ADAMSON showed a case of *Lichen scrofulosorum in an adult*. The patient was a male, aged 18 years, who had also Lupus vulgaris of the nose and caries of the spine. The case was shown as a striking example of this well-known tuberculide. The lesions consisted of oval patches made up of groups of red-brown follicular papules the size of a large pin's head. There were four patches on the abdomen and two on the back, each measuring about 1 in. by $\frac{1}{2}$ in., and made up of some fifteen to twenty papules.

The PRESIDENT did not think that the case could be considered as "ordinary," examples of Lichen scrofulosorum being, in his experience, seldom seen in persons of adult age. It was certainly an eruption which would escape the diagnostic power of many persons but for the concomitant conditions of lupus and spinal caries. He remembered an excellent description of the condition in the works of Hebra, who described papules in comparatively large circles, contrasting with the much more finely patterned Lichen scrofulosorum of young children.

Dr. ADAMSON replied that he did not think in his experience that Lichen scrofulosorum was more common in children than in adults: and cases as pronounced as that now shown were, he thought, more often seen after puberty.

Dr. H. G. ADAMSON showed a case of *macular atrophy following a secondary syphilitic eruption*. The patient, A. C—, was a man, aged 38 years, who had contracted syphilis six years ago, and in whom the secondary eruption had been followed by the present atrophic macules. He had first noticed the atrophic patches some ten or twelve months after the disappearance of the eruption, and no direct transition of the papules into atrophic patches could be proved in this particular case. There were now altogether about a score of atrophic macules situated on the trunk, on the upper part of the back, the chest, and the abdomen. There were also two or three radiating from the axilla on its anterior fold, and one below the eye on the right cheek. They were rounded, or oval, with their long axis in the direction of the "lines of cleavage," and of an

average diameter of $\frac{1}{4}$ in. They were of pale lilac colour, and gave to the finger the impression of a hole in the skin covered by a thin membrane, while on folding up the skin they could be made to bulge outwards from distension by the tissues beneath.

The particular interest of this case lay in its association with syphilis. Many examples had now been recorded of atrophic macules following a secondary syphilitic eruption. Erasmus Wilson, Colcott Fox, and Malcolm Morris in this country had demonstrated cases of macular atrophy after syphilitic eruptions, and Balzer, Fournier, Danlos, Mibelli, and Volk among continental observers. The exhibitor had previously shown two cases of syphilitic origin, and had observed one other in addition to the present case. In two cases the atrophic macules had been associated with Leucodermia syphiliticum on the neck (Section of Dermatology, October 20th, 1910, and June 15th, 1911).* But syphilis was not the only known antecedent of this condition. Some cases had been associated with tuberculosis, and the exhibitor had shown the case of a phthisical person in whom the atrophic areas corresponded with groups of Lichen scrofulosorum (Section of Dermatology, October 2nd, 1910).* Graham Little had brought forward a case of macular atrophy of the trunk, associated with Lupus erythematosus of the face, and Thibierge had described a similar case. It seemed, therefore, that macular atrophy, once known as idiopathic macular atrophy, could be the result of various toxins, particularly of syphilis and tubercle—which produced these lesions by causing atrophy of the elastic fibres of the corium.

Dr. Graham Little asked if Dr. Adamson could say whether the atrophic patches had appeared in the sites of previous syphilitic lesions. In the case of macular atrophy with Lupus erythematosus which Dr. Adamson had mentioned as having been shown by himself it had not been possible to establish the connection between the atrophic areas and previous Lupus erythematosus patches.

Mr. H. C. Samuel showed a case of *linear nævus in mother and child*. The patient was a married woman, aged 26 years, who had had two children. She came complaining of the condition of her forearm and neck about four weeks ago. The lesions looked like flat warts, but more careful examination showed the condition to be linear

* *Proceedings*, 1911, iv, pp. 1, 122.

nævus. He showed the patient because of the lateness of onset of the condition—it developed in her sixteenth year on the chest and axilla—and there was a long interval before its appearance on the neck and forearm—namely, not till the age of twenty-five. He asked whether this condition usually followed the course of the superficial nerves, superficial vessels, or the lines of cleavage or metameses; also as to the best treatment. He believed that carbon dioxide snow had proved disappointing. The patient's daughter, aged 9 years, was beginning to exhibit the development of the same condition on the same side in the same situations.

Dr. Adamson said that it was characteristic of linear nævus that it frequently did not appear at birth or in infancy, but often some years later, and even as late as puberty. In some cases the warty streaks continued to increase in size and number even after puberty, while in others they diminished or even disappeared entirely. He considered carbon dioxide snow the best treatment for this condition, but would apply it only to parts which were exposed or which caused inconvenience—not to the whole extent of the lesions.

Dr. Graham Little had had some success in treating warty nævi of this type with freezing with carbon dioxide snow, but had also had many disappointing results with the treatment.

Dr. F. Parkes Weber showed a case of *generalised atrophic scleroderma with sclerodactylia* described in full at page 113.

Dr. Stowers said he had failed to detect any abnormal pulsation in the arteries of the foot in such cases. The case which first attracted his attention to this disease was that of which coloured drawings were shown—possibly the most severe of all recorded instances—the hands and fingers having the same characteristics as Dr. Weber's patient, but to a much severer degree. His patient, a married woman, dated her disease from a difficult confinement at the age of 23, her previous health having been fairly good. Soon afterwards she lost weight and complained of various subjective symptoms, during the existence of which her right hand and fingers became swollen and stiff. During the following five years the morbid process, still limited to the right hand, gradually developed, the skin over the phalangeal joints becoming inflamed with some discharge of pus from small ulcerations over the knuckles, and slowly contracting. By degrees the integument, at first tender and hypersensitive, became absolutely painful, sharp "flashes" of pain of a neuralgic kind, starting from the finger-tips, radiating over the hand, and passing up the forearm. As months elapsed, the integument over each articulation again swelled and inflamed, so much so, that the least movement was accompanied by acute suffering. The skin did not present excessive pigmentation, the colour remaining natural, or of a reddish hue, the tightened and contracted state being observable at the extremities or pulps of the fingers previous to its extension to the joints which followed during the next five years. As near as possible five years after the right hand became

affected the left commenced to undergo similar changes. Besides the shortening and contractions of the fingers from bone absorption, all the joints, except the upper (metacarpo-phalangeal) of each thumb, became fixed. Skin changes of the same character, though less intense, involved the thighs and lower extremities. The disease gradually progressed, producing the following additional structural alterations—viz., the angular outline of the face made conspicuous by the relative prominence of the malar bones together with the shrinking and falling in of the cheeks; the retraction of the eyelids, producing considerable space between the globes and their coverings; the shrivelling and irregular contractions, or crimping, of the lips. Besides these, the whole integument was dense, hard, and unyielding; the surface being dotted, here and there, with numerous small capillary telangiectases; and lastly, the existence, more particularly on each side of the forehead and towards the hair border, of marked excessive pigmentation. The patient died of pneumonia about the age of 55.

Dr. E. G. Graham Little showed a case of *simultaneous Herpes zoster of the third and the eighth dorsal segments of the left side in a boy, aged* 11 *years.* The eruption had begun in the lower segment, on the Saturday previous to the meeting; there had not been any preceding pain, the first symptom being the rash, and there were some six areas of typical herpetic vesicles stretching from the anterior midline to near the posterior midline, along the level assigned in Head's diagrams to the eighth dorsal. On the Sunday and Monday following the rash began to appear in the upper third dorsal segment in two large herpetic patches—one above the left nipple and separated from this by two finger-breadths, and one over the level of the spine of the scapula. Both these areas were well-marked when shown, and there was in addition a small circumscribed reddened patch, without obvious vesicles upon it, on the middle of the inner surface of the upper arm. Pain had been considerable in this segment, being referred to the left axilla and along the length of the forearm. There were no aberrant vesicles, and the interval between the levels of the third and fifth dorsal segments was perfectly clear of all eruption. There was a rather obscure history which might have some bearing on the causation, the mother stating that the child had had a fall on the pavement while roller-skating on the previous Thursday, but that he had shown no bruising, though complaining at the time of the fall of some pain in the lower part of the back. There was no spinal tenderness along the whole line of the vertebræ.

The case was probably unique in the simultaneous evolution of the eruption in two segments on the same side of the body, separated by

the wide interval represented by five segments. Head, who had probably had the largest possible experience of the eruption of Herpes zoster, had never seen this phenomenon, although he had notes of one case not published in which the fifth dorsal on one side and the twelfth on the other side had been the seat of a simultaneous herpetic eruption.

The PRESIDENT agreed that both eruptions were Herpes zoster, and he was interested to hear that it was an unique experience to have two distinct segments affected on the same side.

Dr. GRAY thought it was fairly frequent for contiguous roots to be involved. Was Dr. Little satisfied that the intervening space was not affected? The best marked case of bilateral Herpes zoster he had seen followed on an injection of salvarsan. On the third day after the injection typical lesions appeared on both ears, on the right side of the lower lip, absolutely demarcated by the middle line, and on the left margin of the tongue.

Mr. SAMUEL referred to a paper by Dr. Essex Wynter, in which he stated that 75 per cent. of the cases affecting the small nerve ganglia—*i. e.* the ganglia connected with intercostal mass—occurred in children under the age of 14; while it was usually the larger ganglia which were involved in the Herpes zoster of adults.

Dr. ADAMSON thought both areas were Herpes zoster. He had not previously heard of two separate areas being affected on the same side.

Dr. DOUGLAS HEATH said he had tabulated a large number of cases of Herpes zoster, but he had not previously seen nor read of two areas being affected on the same side. He had never himself seen bilateral Herpes zoster on the body.

Dr. E. G. GRAHAM LITTLE showed a case of *Dermatitis herpetiformis*. The patient was a boy, aged 8 years. The eruption had begun some fifteen weeks ago with a small bullous rash about the neck and the left groin, and the earlier diagnosis had been that of bullous impetigo. The case was lost sight of for some time, during which the application of ammoniated mercury ointment for several weeks had been attended by no improvement but by an extension of the rash, and when the patient attended again after the interval the diagnosis had consequently been altered to that of Dermatitis herpetiformis. The present distribution was as follows: The neck and the left groin, the sites of the first appearance, remained the most affected parts; there was an area triangular in shape with the base reposing on the line of the clavicles, and the apex at the xiphoid covered very closely with vesicles grouped for the most part in herpetiform manner and on a very inflammatory base, the whole area offering a fanciful resemblance to a red breastplate studded with pearls. There was a crop of less

inflammatory vesicles around the umbilicus, and there were several isolated, not reddened, bullæ about the abdomen. In the left groin more especially, and stretching across the base of the penis to the right groin, another very inflammatory band studded with large bullæ was present; a similar highly inflammatory patch was found on the back of the neck and on the trunk between the scapular spines. Some bullæ grouped in a roughly circinate manner occupied the skin over the internal and external malleoli on both sides, and there were a few sporadic bullæ on the dorsum of the feet and behind the ears. The eruption was sufficiently itchy to disturb sleep, and the boy consequently slept in gloves to prevent scratching. There were no lesions on the mucosa of the mouth. Individual vesicles were mostly small, the size of a pin-head, and with frequent herpetiform grouping, but there were also numerous isolated bullæ much larger than this, some of these being of the size of half an almond. The contents of the blebs were for the most part clear. Several film preparations were stained for bacteria and showed only well-formed polymorphs and no bacteria whatever.

The PRESIDENT agreed with Dr. Little that this was not impetigo, because if it were, with bullæ of so great size, the contents would have been pustular long previously. To draw a hard-and-fast line between Dermatitis herpetiformis and pemphigus was, he now thought, impossible; but that point would be dealt with in the forthcoming debate on the pemphigoid eruptions. He did not think the accidental grouping of a few of the lesions constituted an essential difference between the two diseases. Somewhat in favour of Dr. Little's view was the itching, a feature of which Duhring made much of. Unna's opinion, often quoted, that Dermatitis herpetiformis in young children was confined to boys (*Hydroa puerorum*) was undoubtedly too absolute. He had himself seen two cases in young girls.

Dr. ADAMSON regarded this case as one of Pemphigus vulgaris and not a very uncommon affection in children. The eruption usually cleared up when the patients were put to bed and given daily baths, though there was often a relapse if the patient were allowed to get up too soon. In some cases milder relapses occurred for a year or so, but all usually got well ultimately.

Dr. DOUGLAS HEATH said that in the cases of what he recognised as Dermatitis herpetiformis in children the bullæ were generally large. In the adult, on the other hand, the lesions were often uniformly moderate in size. He agreed with Dr. Little's diagnosis. These cases were rapidly amenable to arsenic.

Mr. H. S. SAMUEL said that a point in favour of the diagnosis of pemphigus rather than that of Dermatitis herpetiformis was the fact that the bullæ arose from normal skin instead of from an erythematous base.

Dr. LITTLE said, in answer to those who had expressed their preference in this

instance for the designation of pemphigus, that in his opinion the separation of Dermatitis herpetiformis was premature, but if it was to be accepted at all as a group apart from pemphigus this case was clearly and inevitably to be classified in that category. It seemed, in fact, to combine most of the criteria chiefly relied upon for differentiating Dermatitis herpetiformis from other bullous diseases, as described in Duhring's original paper. The distribution in particular may be compared with that emphasized by Duhring as specially common sites—namely, "the neck, chest, back, abdomen, upper extremities, and thighs." "The irregularity in size and form of the vesicles," "their firm, tense walls," "their herpetic character," and the considerable pruritus, singled out for special mention in that paper, were conspicuous here. As regards the sex and age of this patient, in a series of twenty-four cases described by Meynet and Pehu* occurring in children, the following conclusions were drawn by these authors: (1) The later years of childhood are more subject than the earlier, especially between the ages of six and ten; (2) seventeen out of the twenty-four cases occurred in males. The exhibitor had shown at the Dermatological Society of London a case with very similar distribution in a female child aged 3 years,† who had been under his observation with repeated attacks of the disease for several years. He had also reported another case in a little girl,‡ and Gardiner§ had described a series of four cases occurring almost simultaneously in female children aged under 9 years. But the disease was undoubtedly much commoner in male children.

Dr. E. G. Graham Little showed a case of *epithelioma of the right thigh*. The patient was a woman, aged 64 years. This case had been described in a recent paper read before the Harveian Society by the exhibitor as an instance of rodent ulcer, but the character of the ulcer was so peculiar that he had changed his opinion and had come to regard it as a possible example of Paget's disease, under which designation it was shown at the meeting. A microscopical examination had, however, now established the diagnosis of rodent ulcer, with some unusual features. The site was one most infrequently recorded. In a wide review of the literature the exhibitor had not been able to find another example of rodent ulcer in the same situation. The appearance of the ulcer was also atypical; there was absolutely no hardened edge, the surface presented a velvety red aspect which the nurse in charge of the case had aptly described as "like a tomato, cut across," and there were some islands of epidermisation scattered over this surface which had suggested the diagnosis of Paget's disease, this feature having been much insisted upon by the French school, as a

* Meynet and Pehu, *Ann. de Derm. et de Syph.*, 1903, p. 893.
† *Brit. Journ. Derm.*, 1903, xv, p. 409.
‡ *Ibid.*, 1902, xiv, p. 425.
§ *Ibid.*, 1909, xxi, p. 237.

characteristic of that condition. The ulceration was now about 2 in. by $1\frac{1}{2}$ in. in size. There was a history of pigmented mole present from birth, having occupied the site of the ulceration, and having remained unaltered until about three years ago, when some injury had abraded the surface and ulceration had slowly proceeded from this centre. No enlarged glands could be felt in the groin. The whole affected region was removed by operation, and microscopical investigation of some of the excised tissue revealed typical rodent growth.

CURRENT LITERATURE.

ECZEMATOID RINGWORM, PARTICULARLY OF THE HANDS AND FEET. M. A. Hartzell, M.D. (*Amer. Journ. of Med. Sci.*, January, 1915, vol. cxlix, No. 514, p. 96.)

Professor Hartzell draws attention to the occurrence of the eczematoid ringworms, making mention of some of the work already done towards the identification and pathological study of these cutaneous maladies. He makes special notice of the work of Sabouraud and of Whitfield, and of the earlier observations of Hebra, Köbner, Pick, and Kaposi. In his paper he describes four cases occurring recently in his own practice in Philadelphia, laying special stress upon the necessity for microscopic examination as a means of diagnosis, the obstinacy of certain cases, and the tendency to recurrence. He refers to the different varieties of fungi concerned in the disease, making reference to Sabouraud's statement that in the inguinal variety known as Eczema marginatum the organism differs botanically from all the ringworm fungi so much that the differentiation may be made by a glance at the preparation through the microscope. This is the variety to which the name of Epidermophyton inguinale has been given. He refers to Whitfield as classifying the cases in three groups: the vesico-bullous type, the type resembling intertriginous eczema, and the third variety resulting in more or less hyperkeratosis of the palms and soles. Dr. Hartzell refers to the comparative frequency of occurrence of this type of disease, and also to the fact that it has been observed that cases are much more common in the well-to-do classes than in those who are seen in the out-patient department of hospitals. He makes a final note as to treatment, saying: "In our own limited experience we have found the ointment suggested by Whitfield, which contains 3 per cent. of salicylic acid with 5 per cent. of benzoic acid, most effective; but it cannot be used, as Whitfield has pointed out, without some degree of caution in markedly inflammatory cases, as it occasionally produces considerable irritation." J. G.

TINEA ALBIGENA. W. McMurray and Norman Paul. (Paper read before British Medical Association Congress, Auckland, N.Z.)

The authors remark that this affection is very prevalent in Australia. They define it as a dermato-mycosis due to a trichophyton generally localised to the

hands and feet. It is characterised clinically by a vesicular or bullous eruption associated with desquamation of the epidermis, or the desquamation may be present without the vesiculation. They believe that this condition, which was described by Nieuwenhuis, of Java, in 1907 as Tinea albigena due to *Trichophyton albiscicans*, is closely allied to Tilbury Fox's dysidrosis (Hutchinson's "Cheiropompholyx") and state that if the fungus is sought for it will be found in 80 per cent. of the cases. Tinea albigena is more common in warm climates. It is widely disseminated in Australasia, Java, Ceylon, Indo-China, Siam, Malaysia, etc., but it also occurs in temperate climates. One of the authors' patients recently arrived from England had had repeated attacks there. The fungus was readily found in the scales.

The earliest age at which the disease was found was two and a half years (a little girl). It is most common in adults and rare after fifty-five. All classes appear to be affected, but the disease is more common in private than in hospital patients. The disease is contagious, and all the members of a family may be affected. The fungus is found in the form of mycelial threads coursing through the epidermis. These threads branch dichotomously. Mycelial spores with double contour and of varying size are easily demonstrable under high magnification. In hanging drop preparations conidia, supported by short sterigmata and separate spindle bodies, are found. On ordinary glucose and maltose agar (2 per cent.) a white growth with duvet appears in six days. As the growth increases the surface becomes more powdery, of cream colour, and fissured or crinkled.

Clinical features.—Two types of affection are observed:

(1) *Severe type.*—The lesions begin as pin-head-sized elevations of the epidermis and spread, always showing an advancing scaly margin on the dorsum of the hands, toes, etc. This desquamation takes place at irregular periods and generally traverses the greater portion of the hands and feet. On reaching the inter-digital clefts of the toes, especially where the epidermis is sodden, a severe pruritus is set up, and, in consequence of scratching, excoriations are produced and painful rhagades develop. Associated with the desquamation is a vesicular eruption on the palms and soles and occasionally on the dorsal surfaces. Coalescence of vesicles leads to the formation of large blebs, which often become secondarily infected. This condition may be accompanied by lymphangitis. In one of the authors' cases of twenty-five years' duration the affection spread up to the knee. Onychomycosis may also occur, the proximal portion of the nail being first and more affected than the distal part. (2) In the *mild type* there is only desquamation, which may attract little attention.

Whitfield and Sabouraud's researches on the eczematoid ringworms of the extremities have indicated the importance of a careful search for fungus in all eczematoid conditions of the extremities. Drs. McMurray and Paul's communication further emphasises the necessity for making a routine examination for fungus in dysidrotic conditions.

As regards treatment, the authors advocate disinfection of the footwear by formalin, and the avoidance of wearing slippers, etc., of people who have had the disease. They advise opening the bullæ and applying sedatives and anti-pruritic lotions and ointments. Chrysarobin, iodine, resorcin, and benzoic acid are indicated in resistant cases. Half pastille doses of X-rays are also of service.

J. H. S.

A CLINICAL, PATHOLOGICAL, AND EXPERIMENTAL STUDY OF THE LESIONS PRODUCED BY THE BITE OF THE "BLACK FLY" (SIMULIUM VENUSTUM). John Hinchman Stokes. (*Journ. of Cut. Dis.*, vol. xxxii, November, 1914, p. 751, and December, 1914, p. 830.)

In this exhaustive experimental study on the bite of the black fly the writer discusses the biology of the genus Simulium, which has recently attracted special attention owing to the theory of Sambon and others that pellagra may be transmitted by flies of this type. The literature on the subject is reviewed, the lesions produced by the bites of the fly are carefully described with their histo-pathology, and a series of experiments is recorded in which preserved flies were employed to produce the lesions.

The following are the more important observations recorded in this paper:

The black fly inflicts a painless bite with ecchymosis and hæmorrhage at the site of puncture. A papulo-vesicular lesion upon an urticarial base slowly develops, the full course of the lesions occupying several days to several weeks. Marked differences in individual reaction occur, but the typical course involves four stages: The papular, vesicular, mature vesico-papular or weeping stage, and the stage of involution terminating in a scar. The symptoms accompanying this cycle consist of severe localised or diffuse pruritus with heat and burning in the early stages if œdema is marked. The pruritus is extraordinarily persistent and has a tendency to periodic spontaneous exacerbations. The flies tend to group their bites so that confluent lesions may result with the formation of extensive œdema and oozing and crusted plaques. A special tendency for the flies to attack the skin on the cheek, eyes, and neck, and along the hair margin, was noticed. In the majority of susceptible individuals the cervical glands became swollen and exquisitely tender on pressure within forty-eight hours of being bitten in the typical sites.

Immunity to all except the earliest manifestations may be developed by repeated exposures. Such an immunity in natives of an infested locality is usually highly developed. There are also apparently seasonal variations in the virulence of the fly and variations in the reaction of the same individual to different bites. Constitutional effects were not observed, but have been reported.

The salient histo-pathological features consisted of changes in the corium induced by the toxic agent, such as vascular dilatation with peri-vascular œdema, and a polymorphous peri-vascular infiltrate. One of the most distinctive features of the lesion was a remarkable local eosinophilia, the number of eosinophiles in the central infiltrate at the point of puncture being considerable. There was also a marked increase in the number of mast cells which were distributed especially around the blood-vessels and the sweat and sebaceous glands. There was marked œdema in the papillary layer of the corium leading to the formation of cuticular vesicles with thinning of the overlying epidermis and obliteration of the interpapillary processes. The epidermal changes were insignificant and secondary to the process in the cutis; they consisted of occasional vesicular formation, moderate intercellular œdema, and pigmentary changes.

The experimental results deal with the reproduction of the lesion in characteristic histological detail by employing preserved flies, the experimental lesions not only reproducing the pathological picture, but following a clinical

course similar to a bite of a live fly. The inoculation was done by means of pastes made from ground fly and glycerine. The actual nature of the toxic agent was not determined; it was found that it was not destroyed by drying the flies nor rendered inactive by weak hydrochloric acid, and that it was most abundant in the region of the anatomical structures connected with the biting and salivary apparatus. It was not affected by exposure to dry heat at 100° C. for two hours, but was destroyed in alkaline solution by pancreatin.

J. M. H. M.

THE IMPORTANCE OF TERTIARY YAWS. R. Howard, M.D.Oxon. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 25.)

The writer has had an unusual opportunity for studying yaws, as he has been at work for fifteen years in different parts of Central Africa between Lake Nyasa and the East Coast in the neighbourhood of Zanzibar, regions where the disease is particularly prevalent. In these districts it is either not treated at all or inadequately dealt with by native remedies; consequently late symptoms corresponding to tertiary syphilitic lesions are common. Owing to the similarity of the late manifestations of yaws to tertiary syphilis many cases are reported as being syphilitic, but in those regions syphilis, both acquired and congenital, is comparatively rare, while in many parts of Central Africa nearly 50 per cent. of the population has suffered from yaws.

In tertiary yaws the onset may occur within a year of the healing of the yaws rash, but more often there is an interval of five to ten years, during which time the whole of the body is clear of the eruption, except for the persistence of the chronic condition of the soles of the feet known as "foot-yaws." The manifestations consist of nodes and deformities about the bones, superficial ulceration, or deep subcutaneous gummata, and ulceration and deformities about the nose, palate, and throat. The disease, which has been reported as rhino-pharyngitis mutilans, and the peculiar leukodermic patches affecting the palms and soles known as melung, are regarded by the author as special forms of tertiary yaws.

J. M. H. M.

REVIEW.

Sequeira's Diseases of the Skin.*

The appearance of a second edition of Dr. Sequeira's *Diseases of the Skin* is an indication that this work has already attained the place it undoubtedly deserves as a standard text-book on dermatology.

The scope of the book is a wide one, and practically every known disease of the skin receives attention. Everything the student and practitioner need know of the ætiology, clinical characters, diagnosis, and treatment of skin-affections is told in a concise and lucid manner. The descriptions of the rarer diseases are brief, but always clear and comprehensive. The commoner complaints are, of course, more fully dealt with, and the sections on Eczema, Ringworm, Impetigo,

* *Diseases of the Skin.* By James H. Sequeira. J. & A. Churchill. 1915. Second Edition.

Lupus, Psoriasis, Lichen planus, the Pemphigus group, Syphilis, and Rodent ulcer are particularly well done.

The omission of historical reference and of discussions on debatable points, and the limitation of bibliography to selected articles, in order to adapt the book better to the requirements of the student and practitioner, naturally deprives the volume of some of its interest for the specialist. But the specialist, as well as the student and practitioner, cannot fail to be attracted by the array of excellent photographs from Dr. Sequeira's abundant clinical material which has been enriched in the present edition by many new examples.

Among the additional photographs we notice: A striking case of reticular Erythema ab igne; a recurrent Streptococcal œdema of the face; a case of Anthrax in a child; Bullous urticaria in an infant; Recurrent herpes of the gluteal region; Acne keloid (or Sycosis nuchæ, as Dr. Sequeira prefers to call it); Cheiropompholyx; two British cases of Pellagra; a tuberculous pseudo-elephantiasis (No. 96), very interesting to compare with the syphilitic pseudo-elephantiasis (fig. 128), an unique example of partial shedding of the nails in Lichen planus (fig. 175); which, again, it is of interest to compare with an almost identical condition in a case of Dermatitis exfoliativa (fig. 393); a case of hypopituitarism, showing absence of pubic and axillary hair; Dr. Galloway's interesting photograph of a case of Porokeratosis of Mibelli, observed in this country; a case of fronto-nasal Morphœa; and several new illustrations of tropical diseases, including a case of "grain itch" in a London dock labourer. We miss the excellent photograph of Pemphigus neonatorum (fig. 55 of the first edition). Five new coloured plates have been added, bringing up the total to 48. Most of these plates are from photographs, in three colours, taken directly from patients. Though as photographs these are excellent, we do not think them so successful as the half-tone plates, for their colours are often too vivid, and do not faithfully present the delicate tints of the human skin, nor, in all cases, the true colours of the eruptions; while backgrounds are rendered distractingly conspicuous. There are, however, ten or a dozen, Nos. 2, 3, 5, 19, 20, 27, 31 (the new plate of purpura, a great improvement on that of the first edition), 34, and 40, to which no exception can be taken on this score. The new coloured plate (No. 4) of Dermatitis artefacta, which is from a water-colour drawing, contrasts favourably with the colour photographs in its truth of tone and colour.

Among the new matter in the text we find: An account of Angio-neurotic œdema; a short reference to Eczematoid ringworm of the fingers and toes, with mention of the benzoic acid ointment introduced by Dr. Whitfield, so useful in the treatment of these otherwise obstinate affections; a note on Verruca plantaris, a common though little known complaint which is generally mistaken for corns, but no mention of the extremely painful character of this affection, which usually brings the patient to consult his medical attendant, nor of the characteristic features which distinguish it from corns, though there is a speaking photograph of this condition; short articles on Lichen nitidus, on Kystes graisseux sudoripares, on Pseudo-xanthoma elasticum, on Colloid milium, on Subcutaneous calcareous granulomata, and on Urticaria perstans verrucosa—a name new to us. There are also several new paragraphs on various tropical diseases. In the section on syphilis there is an instructive article on the Wassermann reaction, written by Dr. Paul Fildes; and under "Lupus" a new, short paragraph on the

Pfannenstiel method, which is a good example of the author's happy knack of concise description.

We notice with satisfaction that Urticaria pigmentosa has been transferred from the section on "Tumours" to that on "Toxic eruptions," and that Angioma serpiginosum has been removed from "Tumours" to "Nævi."

We prefer the term Erythema serpens (Morrant-Baker) to that of Erysipeloid (Rosenbach), since Morrant-Baker fully described the disease more than twenty years earlier: but this is perhaps treading upon the forbidden historical ground. We like "Leucodermia syphiliticum" better than "pigmentary syphilide" as better expressing the true nature of this change.

A subject which we think has not been sufficiently dealt with is that of affections of the palms, and the difficulty of the diagnosis between eczema, psoriasis, syphilis, and even ringworm of this region. Psoriasis of the palms is dismissed in one line, syphilitic palms in no more, palmar ringworm is not mentioned, and five lines only are given to palmar eczema.

Pityriasis rosea does not receive its full title—Pityriasis rosea maculata et circinata—and the circinate form, so liable to be mistaken for Tinea circinata, is not referred to; while the fact that itching is so often a troublesome symptom of this complaint is mentioned only as regards the primary patch.

There is no reference to diagnosis between Lichen urticatus and Scabies in infants and children, a question which constantly arises in hospital practice.

Such, however, are minor omissions where so little of real value is left out.

When stating the dose of X-rays for various complaints Dr. Sequeira frequently mentions that of a "Sabouraud pastille dose" repeated every fourteen days or even every ten days. For example, in the treatment of local hyperidrosis "a pastille dose is given at intervals of ten days. Four or five applications are usually necessary." But for the fact that this is written by one with such large experience in radio-therapeutics we should not hesitate to regard these as dangerously short intervals for pastille doses and liable to lead to subsequent atrophy of the skin with telangiectases.

There is an appendix dealing with internal treatment by drugs which gives a list of remedies and many valuable hints as to their employment; and in another appendix a full list of useful prescriptions for local application, most of which have the merit of simplicity. A very complete and careful index adds greatly to the utility of the book. H. G. A.

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RODENT ULCER.

By E. G. GRAHAM LITTLE, M.D., F.R.C.P.Lond.
Physician in Charge of the Skin-Departments at St. Mary's Hospital, and the East London Hospital for Children, Shadwell, etc.

During the past few months a number of cases of epithelioma of the skin have been exhibited at the Dermatological Section of the Royal Society of Medicine, several of them by myself, and the discussion on these cases has revealed a diversity of opinion as to what should and should not be styled rodent ulcer, which seems to me to indicate that a re-examination of views on the subject which might possibly tend to simplification and a more general agreement, might not be without interest or value. For another purpose I have been analysing my own records of the last twelve years of cases which I have classed as rodent ulcer, and the views which I am about to express are largely based on this personal experience. I make no apology for the circumstance that this experience has been chiefly clinical; I believe that in travelling away from the clinical consideration of this subject, as I think we have done of late, we have lost something of the clarity of older writers and have confused rather than illuminated the conception of this important disease. This was first described with admirable exactitude, on clinical observation alone, by the Dublin surgeon, Arthur Jacob, and it is really remarkable how the conception formulated by him has in all essentials stood the test of further experience and criticism during the long interval since he described it in 1827. It is indeed instructive to contrast the stability

of this clinical concept with the chaotic diversity and variation of opinion on this question resulting from too much reliance on microscopic findings. Jacob's description included all the following essential characteristics, "extraordinary slowness of its progress, the peculiar condition of the edges and surface of the ulcer, the comparative inconsiderable suffering produced by it, its incurable nature unless by extirpation, and its not contaminating the neighbouring lymphatic glands." Its distribution in the region of the eyelids, orbit, and face was noted by him. The sole important clinical feature which escaped his attention, not from lack of observation, but from paucity of material, for he wrote his account from only three cases, is the origin of the ulcer in a nodule or tumour, and even this feature is partially described by him, for, in one of his female patients he says the disease was "preceded by a kernel under the skin over the eyebrow, which was not rough like a wart, and which existed for two or three years before it come to a head, when she picked it, after which it never healed." In another case he noted its origin "in the cicatrix, the consequence of confluent smallpox." He distinguished it "from genuine carcinoma by the absence of lancinating pain, fungous growth, fœtor, slough, hæmorrhage, or contamination of lymphatics."

The clinical picture which emerges from this narrative is so clear and convincing that I regard it as unfortunate that it has been largely obscured by premature attempts to convert what was a useful clinical grouping into an entity hedged round by microscopical criteria of very doubtful authenticity. I believe it was Krompecher who first suggested the classification of cutaneous epitheliomata into the two classes of basocellular and spinocellular, which has been so widely accepted, and there seems an increasing tendency to deny the diagnosis of rodent ulcer in any individual case, unless microscopic evidence can be adduced for ranging it with the former class. To give this classification any practical value it must be assumed that it is always, or at least usually, possible to identify the site of origin of rodent tumours, and it must further be assumed that the tumour keeps to the form from which it originated, which would alone justify the claim that deductions of value as regards malignancy can be made from the mere consideration of the cellular form of the tumour. I submit with some confidence that these postulates are not fulfilled. It is the

simple fact that there is even now no agreement on the important question of the tissue from which the tumour of rodent ulcer takes its birth, so that equally competent observers have derived it from the sebaceous glands, the sweat glands, the hair follicle, and the rete, a bewildering variety which, as Stelwagon remarks, makes it probable that the correct view is that which regards rodent ulcer as simply a slowly-growing epithelioma which may start from the epithelium of any of the skin-structures. This view has the weighty support of Darier, whose work on the histology of epitheliomata enjoys a very special reputation for sound judgment and accuracy.

The second postulate, that an epithelial tumour necessarily "breeds true" and conserves its type, is contradicted by clinical experience, and in a most remarkable manner by the experimental investigation of Murray, who was able to demonstrate the histological mutations of a transplantable mouse tumour through such various forms as alveolar carcinoma without keratinisation; alveolar carcinoma with excessive keratinisation; epithelial cysts with keratin scales, typical adeno-carcinomatous structure, pronounced acinous varieties. The stroma was equally variable, so that the metamorphosis of carcinoma into sarcoma was clearly contemplated. "Up to the present," says this author, "this alteration has not taken on the definitely progressive character leading to the development of sarcoma through an intermediate mixed tumour stage." Stress is properly laid on the superior advantage of the experimental investigation as compared with the observation of spontaneous tumours in man. "Any connection between different forms of growth which may be made out by the latter method must of necessity have only a hypothetical application to the previous history, or later course, of any one particular tumour. In the case of the experimental material the histological changes have actually taken place during known intervals of time, and in a parenchyma which has never been out of observation since its occurrence in the spontaneously affected animal." Experiments of other observers are quoted in the paper confirming the possibility, for example, of converting the pyloric mucosa of the guinea-pig into squamous epithelium by mechanical injury.

Too much credence, in my opinion, has been given to fixity of type, and the anatomical classifications of the epitheliomata which presume fixity of type, such as that suggested in McDonagh's able paper,

seem at least premature, if not founded on fallacious data. I would advocate a return to clinical conceptions in complete opposition to the view enunciated by Norman Walker, who regards rodent ulcer as "a well-established microscopical entity," and gibes at surgeons, "to many of whom, he says, but to few pathologists, all slowly growing epitheliomata are rodent ulcers." The advantage of a greater reliance on the clinical aspect of the lesion than on the microscopical findings, besides the factor of uncertainty which besets the latter, is evident when one considers that in the great majority of instances it is impossible to obtain material for histological inquiry. And so it is somewhat a counsel of perfection to require, as Adamson does, that the term "rodent ulcer should be limited to basal-cell growths of embryonic origin and not arising on previously damaged skin." The latter criterion is also emphasised by Dubreuilh, who refuses the designation of rodent ulcer to cases arising, for example, on senile keratomata; and this exclusion makes Dubreuilh compile statistics which seem to show that the disease is nearly twice as common in females as in males, a finding diametrically opposed to general experience.

The claim is sometimes made that the type of cell conditions the malignancy, and that a basal-celled tumour is *ipso facto* less malignant than a spinocellular growth. I believe this claim also to be of doubtful authenticity, and it is a little difficult to explain why a more embryonic type, such as the basal cell, should give rise to less malignant tumours than the more mature spinocellular variety. Some comments by Darier on this matter seem to me important. He says: "The point of origin of the epitheliomatous proliferation was thought to exert an influence on the anatomical form and its evolution. . . . As a matter of fact it is almost always impossible to determine in any given case what has been the actual source of the proliferation. When this is possible it is often evident that several of the normal structures take part at the same time in the pathological growth. Moreover, when a single one of these seems concerned there is no constant relation between this point of origin and the anatomical form affected by the masses of epithelial new growth. . . . When one demands of microscopical analysis to indicate with precision the exact origin of proliferation on the supposition that an epithelioma derived from the superficial epidermis must differ from a

tumour originating from a hair follicle, a sebaceous or sudoriparous gland, one is on the wrong track. This originating source is, in the majority of cases, impossible to determine, is often multiple, and it is, moreover, established that very different tumours may originate from the same source."

The futility of placing too much reliance on microscopical classification is further illustrated in an able paper by MacCormac, who has succeeded in reducing to vanishing point the differentiations chiefly insisted upon to separate, on microscopical data, rodent ulcer from squamous epithelioma. He shows, for example, that squamous epithelioma not of mucous surfaces is very little more malignant than rodent, occurs in much the same conditions, and at much the same age, and in the same usual sites, and in some cases is clinically perfectly indistinguishable; while the presence or absence of prickle cells, of which so much is made, is quite without importance; he comes to the conclusion, therefore, that there is but one form of carcinoma of the skin, excluding mucous membranes. If the disease grows slowly then the cells assume rodent type, if more rapidly, the Malpighian type, and he has noted the merging of one type into the other in the same section.

So much attention has been paid to the epithelial factor that the part played by the stroma, which is characteristically rich in rodent ulcer, has been somewhat lost sight of, although, as Norman Walker points out, Billroth was so impressed with this feature that he compared rodent tumour to scirrhus. It is probable that the degree of resistance offered by the stroma is a more effective factor in determining malignancy than the type of cell involved. Murray states that the resistance to experimental inoculation of carcinomatous tumours in mice could be greatly increased by the injection of normal mouse blood, or by injection of an emulsion of the skin of mouse embryos. It has even been asserted that the type of cell constituting the experimental tumour could be changed, *e.g.* from alveolar to adenomatous form, by thus increasing the resistance.

In this connection I may say that I saw a very remarkable case, a large and absolutely typical scirrhus of the breast in a woman, aged about forty-five, who came to me eighteen years ago. She was seen by my arrangement in consultation with three operating surgeons of great experience, Mr. Clutton, Mr. Marmaduke Sheild, and Sir, then

Mr., Bland Sutton. The diagnosis was confirmed by all three surgeons, the gloomiest prognosis offered, and immediate operation recommended. This was refused, and she drifted into the hands of a cancer quack, who enjoined strict vegetarianism and the administration of a secret nostrum which was reported upon for me, by Mr. Wynter Blyth, to be an inert preparation of aconite. The scirrhus became fibrotic and progressively atrophied, destroying the mammary gland tissue, and the patient remains in good health, except that in the last twelve months she has developed a number of new carcinomatous hard tumours the size of a small pea on the skin of the wasted breast. My friend and old teacher Mr. Marmaduke Sheild, when informed from time to time by me of this surprising falsification of the forecast he and others had made of the probable progress of the case, told me that he had himself learned, many years previously, by watching the practice of a similar cancer quack, that restriction to vegetarianism was a valuable adjuvant in increasing the resistance in cancer. Conversely agencies which may be supposed to militate against the formation of the protective stroma or to dissolve it when formed, that is to say which are fibrolytic in action, would, *à priori*, be likely to exert a harmful influence, and promote local destruction. In this connection it is interesting to set side by side two statements which appear in the current report of the Radium Institute. Under the heading of "Keloid" we read:

"This condition continues to give most excellent results when treated with radium, and a great improvement if not complete cure can be safely predicted when the condition is of recent origin and occurs in young subjects." Treatment "brings about a gradual absorption of the keloid." Now keloid growth consists principally of young fibrous tissue, which is here said to be absorbed under the influence of radium. Is not the young fibrous tissue which constitutes the protective stroma of rodent ulcer also liable to suffer absorption under the same agent? In some cases it would appear to be so. Under the heading "Rodent Ulcer" radium is indeed praised as being "especially applicable to this condition," but the admission is made that "quite frequently the tissues previously treated with X-rays, zinc ionisation, and freezing with carbon dioxide, etc., break down under radium to an extent which far exceeds the existing ulceration." The explanation of this may surely be that the young fibrous tissue produced by

the treatments specified suffer a rapid absorption under radium, and I have seen this happen in several of the cases included in the present review (Nos. 11, 17, 96). Indeed, if one could identify the fibropoietic agency which may be assumed to exist in keloidal cases and imitate its effect one might go far to restrict the destructive action of malignant growths. And it is not improbable that the disastrous results which sometimes follow many methods of treatment of rodent ulcer are to be accounted for by supposing that the fibrous tissue is impeded in its growth or absorbed when formed, and that an impetus is thus given to the local destruction of tissue produced by the malignant ulceration. I propose to examine some statistics of recurrence after surgical operation which seem to point to rapidly increasing virulence with each repeated excision, as if resistance had been actually broken down by these operations. Jacob, with his usual acumen, noted this also. "I have indeed observed," says he, "that one of those cases which is completely neglected, and left without any other dressing than a piece of rag, is slower in progress than another which has had all the resources of surgery exhausted upon it."

It has struck me forcibly in reviewing my cases that recurrences are often to be explained, not because the patient has had inadequate treatment to the area affected, so much as because there is an idiosyncrasy in the individual to the development of epithelioma, just as we presume an idiosyncrasy to explain keloid growth. Recurrences are, of course, frequent as the result of inadequate treatment, but in so many of my cases the recurrent lesion has been separated from the original site by an appreciable interval of unaffected skin that the hypothesis of idiosyncrasy seems to be a better explanation. No doubt the neighbourhood of the site of an existing rodent is a favourable region for the development of new rodents, and it is not infrequent to see numerous grouped lesions occupying a restricted area, and this is especially true of the distribution of a disease which I am for the present classifying with rodent—Epithelioma adenoides cysticum. The explanations which have been offered for the selective restriction of rodents to the upper part of the face, such as McDonagh's theory of atavistic hair and glands, to which reference is made elsewhere, perhaps lend some corroboration to the view that in the upper part of the face there is some anatomical or developmental reason why this region should be a favourable milieu for rodent growth, so that fresh nodules

may be better explained as new lesions rather than as a recurrence of the old treated disease; that is, these cases should rank with multiple rodents. An objection will occur to all, viz., that the commonness with which single rodents are observed and the supposed rarity of multiple lesions militates against the views just expressed, which presume a special local and a special general predisposition to epithelioma. I believe that multiplicity, whether synchronous or successive, is much commoner than is usually taught, and shall consider this factor again. Cases in which more than one rodent was noted, excluding instances in which the new lesions could by any stretching be regarded as recurrences of growth on previously affected sites, are designated "multiple" in the following tables, and it will be seen that they form a considerable proportion of the whole series. A convenient term for this presumed tendency to develop epitheliomata would be epitheliomatosis, on the analogy of furunculosis; the existence of some such factor is rendered more probable by the experience that the quality would seem to be capable of hereditary transmission, very markedly in the type known as Epithelioma adenoides cysticum, markedly in other forms of epithelioma, and moderately frequently, in my opinion, although the contrary view of its rarity is widely expressed, in the form of typical rodent ulceration. I have been impressed with the increasing frequency with which I have found histories of inheritance since my attention has been directed to this question, and it must be remembered that patients are very reluctant to acknowledge any cancerous inheritance, so that the proportion of positive cases is probably larger than statistics would show. Inheritance is stated by Crocker, Bowlby, Spencer and others, not to play an important part in causation of rodent as it is supposed to do in other epithelioma. I believe, as I have said above, that hereditary influences are more frequently met with than these views suggest, and that one gets histories of family disease in proportion to the care and tact exercised taken in investigating these. If one includes the inquiry for cancerous relatives with a number of innocent questions, the patient may be taken off guard as it were and admit such. In a somewhat peculiar case, not included in my list, a woman, aged 60 years, showed a nodule of neoplasm dating from four years previously, on the left cheek which was clinically diagnosed as rodent, but was established microscopically as a tumour consisting

chiefly of sweat gland tissue with some reversion to squamous epithelioma in parts of the section. This patient's mother had developed a rodent ulcer, also at the age of sixty, which had eventually eroded the whole eye and nose, with an ulceration slowly increasing until the time of her death sixteen years later. As examples of probable inheritance cases, 7, 84, 92, 118 may be cited.

Special attention was paid to the question of inheritance in the series of cases recorded by Roger Williams, who notes the following instances. The family history was investigated specially in the case of twenty-three patients suffering from rodent ulcer, with the result that in four cases there was a positive history of cancer, a patient's father, a patient's maternal grandmother, a patient's maternal aunt, a patient's sister having suffered from cancer or rodent ulcer, and in three other cases there was a history of a patient's mother and a patient's niece dying of "abdominal tumour," and a patient's sister dying of an "internal tumour."

Type of Commencing Lesion.

Histories have frequently pointed to a preceding nodular growth even when the earliest lesion, when seen, has been an ulcer. The largest nodule thus described in the following series reached the size of a Tangerine orange before ulceration took place in it. Several instances of rodent ulceration appearing in the site of pigmented areas or moles (Nos. 3, 7, 10, 11, 13, 38, 86, 107, 115), and of scars or injuries are recorded in the appended series (Nos. 69, 78, 110, 116), and in several there were concomitant senile keratomata or senile pigmented patches, chiefly on the dorsum of the hands. In one very interesting case, No. 2, which was seen by Besnier and Darier at my suggestion, these authorities pronounced the diagnosis of rodent appearing on the sites of patches of "epithéliome sebacé," but it has been more common to find these senile patches coexisting with rather than giving rise to the rodent tumours. In three cases (Nos. 107, 108, 109) there was as an early initial lesion a patch of induration of the thickness of a playing card, which had persisted in this condition for several years, recalling Crocker's case of rodent commencing with a yellow pigmented plaque, and Whitfield's case simulating morphœa. I have seen only one case of primary cystic

rodent, No. 5, which appeared on the back, and was demonstrated by microscopical investigation to be cystic rodent. The three cases which I regarded as clinically examples of epithelioma adenoides were all cystic, but the propriety of classing these as rodents may perhaps be questioned. In one case, No. 97, there was a very atypical ulcer with absolutely no induration of the edge, which proved microscopically to be rodent. Similar cases have been recorded by Crocker, Cavafy, Lees, and Winkelried Williams. Multiple lesions in my list have been more frequent than is usually said to be the case (Nos. 12, 29, 44, 45, 48, 49, 52, 67, 69, 75, 77, 78, 82, 95, 101, 102, 103, 116, 117). Crocker, for example, mentions only three in his own enormous experience. On the other hand, MacCormac found four examples in forty-one cases, and quotes Dubreuilh, who, in a series of 110 cases, had five instances of multiplicity.

Epithelioma Adenoides Cysticum.

The relation between this type of disease and rodent ulcer has been the subject of discussion, and in view of the fact that there are neither histological nor clinical differentiations which will hold water on testing opinion with actual cases, there seems at present no valid reason for regarding the conditions as distinct. An illustration of the hopelessness of separating these two types is offered by the discussion of a case shown by me (*Brit. Journ. Derm.*, January, 1915), in which opinion seemed pretty equally divided as between a diagnosis of rodent and Epithelioma adenoides cysticum. In this connection attention may be directed to two remarkable cases reported by Sutton, one of which was regarded by him as a rodent and the other as "Epithelioma adenoides cysticum" on histological grounds. The patients were mother and daughter, and in both there were multiple tumours of early development with ultimate ulceration of single lesions clinically indistinguishable from rodent ulcer. In my opinion, both these cases fulfil all the requirements of Epithelioma adenoides cysticum, and the fact that there was ulceration cannot to my mind justify excluding them from that category. Dore mentioned a similar experience of his own, of ultimate ulceration in the course of two cases of Epithelioma adenoides cysticum occurring in a brother and sister. I have consequently included with my series hereunder

three instances of what, in my view, would be classed as Epithelioma adenoides cysticum, if this were still acceptable as a separate entity (Cases 101, 102, 103), though these cases have been previously reported by me as examples of Epithelioma adenoides cysticum. To my mind, one of the principal difficulties in accepting the fusion of the two diseases was the fact that in the earlier Continental cases the distribution of Epithelioma adenoides cysticum was so frequently on the trunk, a position in which single rodent ulcers are undoubtedly rare. But extra-facial rodents are not actually so uncommon as text-books might lead one to suppose. Sutton, in criticising McDonagh's view, which explains the frequency of rodent in the nasolabial and naso-orbital grooves on the hypothesis that growths in these positions are atavistic of the lower eyebrows and certain specialised skin glands found in some mammals and absent in man, propounds the important objection that these sites are quite often not involved at all in undoubted examples of the affections for which this origin is invoked. Examples of extra-facial rodents are fairly numerous in the series below, and in other similar collections of cases. Of such extra-facial positions the neck, the back of the trunk, the scalp would seem to be the commonest, as is apparent from the following table in which I have collected some instances of extra-facial distribution culled from the reports of the *British Journal of Dermatology* since its foundation, and from some other sources.

Extra-facial Rodent Ulcers.

This list is compiled almost entirely from English sources, as it is not easy always to apprehend what Continental writers mean by the term when they make any separate classification from other epitheliomata, which is infrequent. I have excluded all cases of the clinical type of Epithelioma adenoides cysticum; if these were included the variety of extra-facial instances would be much increased. Cases from my personal series are numbered according to their position in the table annexed to this paper.

The list is not in any sense exhaustive, but may serve to give some idea of the relative frequency of extra-facial lesions.

Scalp. Single cases reported by Parker, Mackenzie, Stowers, Fox, MacCormac.

Nape of neck. Personal cases, Nos. 4, 29, 84, 87, 92, 111, 117. Single cases reported by Crocker, Mackenzie, Paul, Bowlby.

Pinna of ear. Personal cases, Nos. 52, 70, 79, 95. Single cases reported by MacCormac, Beadles; two cases by Bowlby.

Mastoid eminence. Personal cases, Nos. 36, 110. Sequeira (single case).

Back of trunk. Personal case, No. 5. Single cases reported by Crocker, Sequeira, Pringle, Mackenzie, McIntire, Whitfield, Adamson; two cases by Bowlby.

Sacrum. Single cases reported by Crocker, Gray.

Sternum. Single case reported by Colcott Fox.

Labium majus. Single case reported by MacCormac.

Umbilicus. Single case reported by Rolleston.

Male breast. Single case reported by Betham Robinson.

Arm. Personal case, No. 50. Single cases reported by McMurray, Mackenzie, J. Hutchinson, jun.

Wrist. Personal case, No. 45.

Dorsum of hand. Personal cases, No. 34 and No. 117. Single case reported by Crocker.

Groin. Single cases reported by Crocker, Hutchinson, Pigg.

Thigh. Personal case, No. 97. Single case reported by Bidwell.

Dorsum of foot. Personal case, No. 90.

Sole of foot. Single case reported by Haldin Davis.

Sex Incidence.

English statistics are here also to be preferred to Continental, owing to the difficulty of appreciating Continental classifications. For example, Dubreuilh, who comes nearest of foreign authors to the English standpoint, excludes from classification all cases which begin with trauma, and the anomalous result is that of 166 cases reported by him as rodent ulcer, 108 occurred in women, and only 58 in men—*i. e.* nearly twice as often in women. Directly the opposite conclusion can be drawn from Bowlby's figures, in which of 66 cases 40 were men and 26 women. Butlin, in 210 cases, reported 120 males, 90 females. Crocker, analysing 75 personal cases, found 42 males and 33 females. In 27 cases reported by Roger Williams 14 were men and 13 women. In my own present series of 118 cases,

excluding lesions of the lips, the proportion is 63 males to 55 females.

Age Incidence.

The following is an analyses of my own series, and a series of 166 cases reported by Dubreuilh, set out in quinquennia, the age representing not the time at which the disease was first noted, but the age when the patient came first under observation :

	Personal cases.	Dubreuilh's cases.
26 to 30 :	Four.	One.
31 to 35 :	None.	Four.
36 to 40 :	Six.	Twelve.
41 to 45 :	Eighteen.	Seventeen.
46 to 50 :	Sixteen.	Seventeen.
51 to 55 :	Eleven.	Twenty-six.
56 to 60 :	Eighteen.	Fourteen.
61 to 65 :	Twenty-one.	Twenty-five.
66 to 70 :	Fifteen.	Twenty-two.
71 to 75 :	Seven.	Fifteen.
76 to 80 :	One.	Eight.
81 to 85 :	One.	Three.
86 to 90 :	*Nil.*	Two.

In both of these series the average age is considerably higher than that frequently stated to be usual, viz. round about forty. MacCormac, in a series of thirty-nine cases, found an average age of onset of 53·7. The youngest age of commencement in my series was twenty, and this was a patient with symptoms preponderating to the diagnosis of Epithelioma adenoides cysticum. The oldest age of onset was eighty-one.

Status of Patients.

It seems to be a general experience that rodent ulcer is proportionately more frequent in private than in hospital practice, and in my own figures, whereas the ratio to other skin diseases in my adult clinic at St. Mary's was 3·5 per mil, in private records it was 12·5 per

mil. This discrepancy is, no doubt, to be partially explained by the fewer trivial cases one sees in private as compared with hospital work, but I have the impression that the disease is relatively commoner in the well-to-do.

Statistical Survey of Frequency of Rodent Ulcer.

Lazarus Barlow and Gordon Taylor, in an inquiry conducted on the basis of the records of the Middlesex Hospital in 1905, stated their conclusion "that the general tendency throughout the century has been towards a decline in the incidence of rodent cancer in males; and since the year 1865 in females also." A contrary conclusion would express my personal impression, and it is, perhaps, worthy of remark that in Crocker's statistics of ten thousand cases of general skin disease noted by him in 1893, the ratio of rodent was 1·4 per mil, whereas, in a number of cases more than twice as large now under survey and excluding private patients, the ratio was 3·5, considerably more than twice as great.

Course of Ulceration.

In a small proportion of the cases the disease resisted every kind of treatment and spread unchecked. Nos. 1, 11, 17, 27, 32, 96, 124.

Ulceration could not, however, be said to have been the direct cause of death with certainty in any case except, perhaps, No. 32, which was reported to have died from the ulceration in Chicago, two and a half years after he had left England. Even my Case 1, the most terribly mutilated living being I have ever seen, hung on in this condition for years and died from septic pneumonia, indirectly no doubt due to his ulceration. In only one case (No. 16) have I seen the transformation of a chronic rodent ulcer lasting for years into a fungating, rapidly spreading, malignant growth perfectly different clinically from the well-marked earlier rodent. Haldin Davis reports a case of concurrent rodent ulcer and epithelioma, and quotes two other instances, but the combination is rare.

In a remarkable recent case, No. 116, the history pointed to an extremely short period between the injury, which apparently started growth, and the development of clinically perfectly typical rodent

tumour and ulceration. The patient was a barge builder, aged 43 years, and by some odd accident the bottom of a barge, foul with barnacles and algæ, came into contact with his left cheek so as to cause wounds which bled freely. In the site of this injury two lesions appeared, one at the outer canthus of the left eye, and the other an inch below this on the malar eminence. The upper lesion took the earlier form of an abscess, which was opened and much pus and blood evacuated, but it did not heal, and when seen six weeks after the accident, as narrated, there was an ulcer with a rolled, raised edge, quarter of an inch high, and a scabbed-over central excavation, the whole occupying an area of about an inch by three-quarters of an inch and involving both upper and lower eyelids. The lower lesion was in the form of a typical rodent nodule—waxy, semitranslucent, mamillated, with a slight central depression, and a minute ulceration at one corner of the nodule, which was about half an inch in diameter. There was no glandular enlargement in connection with the growths. A somewhat similar history is given in a case recorded by Roger Williams, in which a rodent ulcer developed in the site of a "wound by piece of glass a short time previously."

The statement has been made that no epithelioma involving the lower lip is to be regarded as rodent ulcer, and that the only suitable treatment for lesions in this position is excision. I have accordingly excluded from my list all such epitheliomata and grouped them separately, although I am not in entire agreement with that view. No doubt epitheliomata, obeying the two cardinal clinical requirements for the diagnosis, viz., slowness of progress and absence of glandular invasion, are uncommon on the lip, but I have certainly seen this combination in ulcers of the lip, and unless it be laid down that squamous-celled carcinoma is *ipso facto* excluded from classification with rodent ulcers, such cases are impossible of differentiation from rodent.

Treatment.

It is a curious reflection that in the interval from the date of the original paper on the subject by Jacob in 1827, right up to the end of the last century, there had been no improvement and very little change in the methods of treatment. Escharotics and excision, which

he names as the methods of election, are the sole methods mentioned in a valuable analysis of cases furnished by Roger Williams from the records of the Middlesex Hospital in 1888. This is indeed the only collection of cases which I have been able to find in which the ultimate fate of patients treated by these means is detailed for several years after operation. I believe it will be generally agreed that we do not now see the formidable rodent mutilations nearly so often as was the case fifteen years ago, and this period happens to coincide with the wide adoption of alternatives to excision and escharotics. Part of this improved state of affairs is, in my opinion, attributable to the earlier treatment which patients, who might not consent to operative measures, will accept if operation is removed from consideration. We must all be familiar with the difficulty with which, when operation was the only method to be recommended, patients could be persuaded to undergo this for lesions which to themselves appeared perfectly innocent. And the results of operation went far to justify the repugnance felt by victims of a disease which usually attacks conspicuous parts of the face, to suffer hideous mutilation by surgery in order to gain what was usually but a brief respite from the disease. I have analysed below the results detailed in Roger Williams' paper. The cases included all kinds of rodent growth. In twenty-six of the twenty-seven cases the primary lesion is described as "very small." In twenty cases, the extent of the primary disease at the time of the first operation is specified as being as big as a threepenny-bit in three cases, as big as a sixpence in six cases, as big as a shilling in four cases, as big as a half-crown in four cases, and as big as a crown in three cases. In eleven of these cases which were treated by free excision, in several instances with enucleation of the eye as well, and in which the history was followed up, recurrence took place in all, at the following intervals after operation: In three cases within a few weeks, and in the remaining eight after two months, after four months, after twelve months, after fourteen months, after eighteen months, after twenty months, after two years, and after five and a half years.

Excisions performed for recurrent ulcers were even more disastrous; of fourteen such cases, one died of phthisis sixty-seven days after operation, and in the remaining thirteen a second recurrence took place at the following intervals after the operation: (1) A

few weeks after; (2) two months; (3) six months; (4) a few months; (5) a few weeks; (6) one year; (7) six months; (8) one month; (9) one year; (10) one month; (11) two years; (12) two and a half years; (13) six months.

It has been objected to these statistics that they represent an out-of-date surgery, that excisions were not as freely made as they would be now, and that the greater safety and frequency of use of anæsthetics makes the contemporary operation more radical. But the descriptions show that there was no sparing removal of tissue, the surgeons concerned were of special experience in cancerous surgery, and the date is within twelve years of what may be called the era of new methods which came in with the application of X-rays in 1900.

Somewhat more recent statistics—*i. e.* up to the year 1900—are furnished by Butlin, who remarks candidly enough that he is disappointed at not having much better results to show, in spite of the improvement in surgical technique. In the largest series quoted by him the percentage of cases which might be said to be cured after operation was a little over thirty-six, but this result is, to my mind, entirely vitiated by the fact that the observation did not extend to more than three years after operation. And even this slight improvement in rate of recurrence is largely purchased at the expense of formidable destruction of tissue, for Butlin himself insists that the "line of incision must be carried far outside (at least half an inch) and beneath the disease, so as to remove a wide area of the apparently healthy tissues. *No respect should be paid to the disfigurement which may follow free removal of the disease.*" (The italics are mine.) Small wonder that the patient often preferred to the certain mutilation promised by the surgeon the less vividly apprehended mutilation threatened by the disease.

A distinguished operating surgeon, whose opinion on the fairness of the comparison I recently sought, told me that he was quite sure the statistics of present-day surgery in rodent would be even worse, for while before 1900 the series represented cases untreated previously by other means and the common run of cases, surgeons of to-day seldom had the opportunity of operating on cases which had not been otherwise treated, and were usually in the final stages of destruction, and sent to the surgeon as the last resource.

The experience with escharotics not otherwise specified, reported in the same review by Roger Williams was as follows: In eight instances of primary rodents so treated, in which history was followed up, recurrence followed in all at these intervals—

Cases 1, 2, 3, "shortly after"; Case 4, after two months; Case 5, after one year; Case 6, after two years; Case 7, after four years; Case 8, after several years.

The series treated by escharotics was thus appreciably more favourable than the series treated by excision. I have not used escharotics personally, but in one of my list the general practitioner in charge of the case reports that the most effective of many treatments had been by an arsenical paste; and in two other cases, Nos. 5, 86, I had ordered as a temporary application to soften a hard-edged rodent a salicylic acid plaster, and was astonished to hear that so much improvement had resulted that the patient had decided not to take any further measures. The most remarkable of these was Case 5, in whom a large cystic rodent occupied the back. This gentleman, a solicitor by profession, reports to me, eight years later, that the old patch has healed, but there has been apparent extension at the margins, and he obstinately refuses to change the application, which is still that of salicylic acid plaster. He sends me an excellently executed sketch of the present appearance, which seems to confirm his statement entirely.

I propose to comment in some detail upon two only of what may be called the most recent methods of treatment, namely, by radium and by carbon dioxide freezing.

Radium.—This was applied to primary rodents which had not been otherwise previously treated in two cases Nos. 99, 126. In the first case, a typical small rodent of the naso-orbital fold, two applications for sixteen hours each of radium failed completely in producing any impression on the ulcer and according to the patient caused severe pain of the neighbouring eye, of which he still complains, twenty-one months after, thus: "The feeling of fulness and smarting in the lower eyelid with watering from the eye which I have felt ever since the radium was applied, is still present, often forcing me to discontinue reading or writing, which is a bore." Six months after the last application of radium I gave two treatments of freezing which resulted in complete removal of

the ulcer and there has been no recurrence up-to-date fifteen months after.

The other case was that of a lady with a small ulcer of the lower lip in whom one application of radium, two years ago, produced an apparent cure, and as far as I know, there has been no recurrence since. In three other cases, Nos. 11, 17, 96, in which radium was applied, after failure to check the disease with several other methods, the application of radium seemed to produce a very rapid and formidable destruction of what had seemed healthy contiguous tissue. This effect is stated by the current report of the Radium Institute which I have already quoted to be "quite frequent" in such cases, so that my experience would not seem to be at all exceptional. In this connection I transcribe the statement of a highly observant private patient, No. 96, which gives a striking picture of the relentless march of this disease in exceptional instances.

"Sometime during 1906 ulcer started on my chin.

"Treated by Dr. A—, with lotions and ointments, without success.

"1907.—Dr. B—, treated with red hot steel. Result, ulcer deeper and bigger.

"Dr. C—, operated and cut it out. Results, cleared for twelve months.

"1908–1909.—Ulcer appeared again. Dr. C—, treated with X-rays once a fortnight for twelve months. Result, slowly spreading.

"1910.—Consulted Dr. D—, who performed extensive operation. Result, cleared for two and a half years.

"1912.—Ulcer appeared again.—Dr. E—, of Cardiff, treated with snow and zinc ionisation. Result, slowly spreading.

"1913.—Treated with radium in London, eight applications in five weeks. Result, rapidly spreading.

"1914.—Treated by Dr. F—, in Swansea. Ointment applied once. In about six weeks the edge of the ulcer appeared to be healed, and has since been apparently healed and has stopped spreading."

Freezing with carbon dioxide.—I believe I was one of the earliest users of this agency in treating rodent ulcer, my first case with it dating from July, 1910. Experience of it is thus only some four and a half years old, and although some of my original cases so treated remain free of all recurrence, the method is still on pro-

bation, and I shall content myself with saying that I am personally satisfied with my results as far as this short experience allows of the statement. I have, at any rate, never seen harm come from its use, which is more than can be said for some of its rival agencies. The rapidity with which ulcers heal under its use is noteworthy, and has probably led to some cases getting inadequate treatment, the patient being satisfied with a cure when the physician might still detect some hard rodent tissue which requires further treatment. If the precaution be taken to see the patient for several years after apparent cure has been effected, recurrences will now and then be noted, no matter what treatment has been used, but I do not think recurrences are any more frequent with this method than with others if freezing is properly applied and sufficiently to remove completely all trace of induration. If recurrent nodules appear on the treated site this may be assumed to have been undertreated on the former occasion, and a few further applications will probably efface them as successfully as the primary growths. The scar left by this treatment compares favourably with the scar resulting from any other method. For the past four years I have used this agency extensively in private and hospital work, and I have set out a number of consecutive cases so treated recorded as impartially and faithfully as I am able.

In the table which follows, the order is roughly that in which the cases came under observation, and wherever possible the patients have been followed up, but the difficulty of tracing hospital patients after even short intervals will be familiar to all who preside over hospital clinics. For many years I have encouraged patients to report themselves for observation once in three months, and in this way have kept in touch with some of the oldest of these, but the list nevertheless is far from complete. I should not wish to close without a word of thanks to my surgical colleagues who have been generous in providing me with material, and to Drs. Spilsbury and Kettle, Pathologists to St. Mary's Hospital, who have examined many specimens for me, and given me the benefit of their unrivalled knowledge of malignant growths.

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
1	Edward W.	60	M.	Army Officer.	Nodule	30 years	Bridge of nose.	"Caustics." Nature unknown.	Nodule ulcerated, and finally ulceration destroyed both eyes, nasal bones and upper maxilla. Patient died ultimately of septic pneumonia.
2	Maurice C.	65	M.	Barrister	Senile keratosis, with multiple keratomata.	10 years	Nose and cheek.	Galvanic and actual cautery.	Seen by Besnier and Darier who diagnosed "épithéliome sebacé" with subsequent rodent ulceration, which is reported to have healed.
3	Edward D.	48	M.	Civil Servant.	Pigmented warty patch.	28 years	Warty growth pigmented, under L. eye. Senile keratoma L. ear.	Ionization, zinc and magnesium; two applications.	Warty growth on cheek completely disappeared. Recurrence or fresh growth reported to have taken place five years later, *i.e.*, 18 months ago. Not seen again. Lesion on ear, not treated, remains *in statu quo*.
4	Henry F.	45	M.	Clergyman	Ulcer	2-3 years	Back of neck	Treatment declined.	Subsequent history unknown. Seen once only.
5	Henry S.	48	M.	Solicitor	Ulcer 3″ × 2″ with small cysts.	"Several years."	On back of trunk between Scapulæ.	Salicylic acid plasters.	Microscopical examination indicated cystic rodent tumour. Complete involution reported in centre with good scar. Some extension at margins. Seen only once in 1906. Refuses other treatment. (Report 1915.)
6	Emily M.	60	F.	Married	Ulcer	Uncertain	Lower eyelid	X-rays (18 months); failed to cure. Excision.	Attended irregularly owing to distance. Ulcer spread under X-ray treatment. Excision of entire eyelid then performed. Remains well, no recurrence, nine years after. (Report 1915.)
7	Martha M.	50	F.	Married	Ulcer in site of mole.	8 years	R. cheek	Excision. X-rays.	Mole increased in size and became painful: excised; recurrence, again excised three years later. Second recurrence treated with X-rays. After 70 exposures seemed cured. Recurred six months later. Sequel unknown. Patient had had breast removed for "cancer." Father died of "cancer."

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
8	John G.	69	M.	Baker	Ulcer	—	Face	X-rays	Lost sight of.
9	Wm. C.	62	M.	Riveter	Ulcer	2 years	R. cheek under eye.	X-rays	After 89 exposures, ulcer seemed cured. No recurrence, and remains well, 12 years after. Report 1915—Scar hardly seen.
10	Mary C.	61	F.	Married	Ulcer in site of of mole.	15 years	R. temple	Excision	Lost sight of.
11	Margaret L.	64	F.	Married	Ulcer in site of pigmented mole.	9 years	Above L. eyebrow.	X-rays. Excision. Ionization. Freezing. Radium.	Began as small ulcer. Healed several times in last 12 years that she has been under observation. Always recurred. Various treatments tried, the last being radium (nine months duration) which seemed to cause great destruction. Whole orbit ultimately involved. Seen 1915.
12	Annie Y.	45	F.	Married	Multiple ulcers and nodule.	—	Cheek. R. side tip of nose; infraorbital left side.	X-rays	Eight years previously had rodent of R. cheek, which got well with 19 exposures of X-rays. New nodule came on nose two years after, which disappeared with nine X-ray treatments. Still later new nodule appeared on L. cheek five years ago.
13	Grace T.	37	F.	Cook	Ulcer, began in pigmented mole.	—	Face	Excision	History subsequent to operation unknown.
14	Jane D.	65	F.	Laundress	Ulcer	—	Outer side of orbit.	Refused treatment.	Lost sight of.
15	John F.	50	M.	Caretaker	Ulcer. Senile keratoma (hands).	10 years	R. ala nasi	X-rays. Ionization. Freezing.	Did well for certain time with X-rays, then relapsed and seemed unaffected. Same experience with ionization. Relapse treated with freezing. Remains well during last six months.

16	George S.	44	M.	Carpenter	Ulcer	25 years	L. lower eyelid (at inner canthus).	X-rays	Had about 150 exposures to X-rays during two years. Ulcer almost completely healed. Then a rapidly growing epithelioma developed (microscopic examination made). B.J.D. 18, p. 286.
17	Lucy H.	59	F.	Married	Ulcer	5 years	R. temple, near orbit.	X-rays. Radium.	Treated with X-rays during 3 years. Could not tolerate any but very short exposures. Relapsed. Treated with radium in 1907, and seemed to do well for time. Relapsed with great extension of ulceration and erosion of bone. Alive 7 years after first visit, then lost sight of.
18	Alfred R.	43	M.	Clerk	Ulcer	4 years	R. side of nose	X-rays, 30 exposures.	Did well, healed for several years. Subsequent history unknown.
19	Edward W.	54	M.	Carman	Ulcer	—	Face	X-rays	Lost sight of.
20	Alice M.	54	F.	Cook	Ulcer	15 months	R. ala nasi	—	Sent for diagnosis by medical attendant. Treatment adopted by him not ascertained. No details available.
21	Louisa G.	72	F.	—	Ulcer	—	Face	—	Made only one attendance.
22	Flora C.	51	F.	Wife of civil servant.	Ulcer	3 years	Inner canthus L. eye.	X-rays	Ulceration completely healed. Report nine years later (1915) that she remains perfectly well.
23	Georgina C.	62	F.	Seamstress	Ulcer	10 years	Inner canthus L. eye.	X-rays. Excision.	Did not do well with X-rays. Excised after 3 months' trial, subsequent history unknown
24	Charles L.	66	M.	Painter	Ulcer	Several years.	Cheek	X-rays. Ionization.	Improved and relapsed from time to time. Lost sight of after some 3 years.
25	James M.	48	M.	Steward	Ulcer	5 years	Nose	Ionization	Had one treatment with zinc ions. Healed perfectly. No recurrence. Remains well, 7 years later (1915).
26	Ellen B.	68	F.	Domestic	Ulcer	3 years	Temple	X-rays. Ionization.	Lost sight of after about 3 months' treatment.

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
27	Sarah W.	75	F.	Widow	Ulcer	—	Supraorbital	X-rays	Ulcer unchecked. Reported four years after to have destroyed eye (1913). Lost sight of since 1913.
28	Jane B.	38	F.	Wife of clerk.	Ulcer	3 years	Bridge of nose.	Actual cautery; two applications.	Remains healed, but with considerable scar, and without recurrence six years later (1915).
29	James W.	69	M.	Gardener	Multiple ulcer	—	Neck	Excision	Treated area remains healthy. New ulcer reported by medical practitioner to have developed on other side of neck six years later (1915).
30	Sarah H.	50	F.	Wife of collector.	Ulcer	—	Cheek, near L. ear.	Ionization. Freezing.	Case referred to medical attendant, who cannot now trace her.
31	Arthur C.	42	M.	Carman	Ulcer	—	Cheek	Excision.	Developed on old patch of lupus. Subsequent history unknown.
32	Thos. J.	42	M.	Manufacturer.	Ulcer	2 years	R. inner canthus.	Ionization	Had five applications, and much improvement resulted, but was not cured, and would not remain in England. Reported to have had operation in Chicago for recurrence, and to have died 2½ years later
33	Charles P.	40	M.	Coachman	Ulcer	1 year	Ala nasi	Caustics	Reported well. No recurrence.
34	Henry M.	57	M.	Asylum officer.	Ulcer	2 years	On hand	Excision	In site of old lupus. Clinical appearance of rodent Subsequent history unknown.
35	Francis A.	68	M.	Engineer	Nodule	2 years	Nose	Freezing	Completely healed after four treatments. Not seen since 1910.
36	Thomas H.	40	M.	Labourer	Ulcer	—	Behind R. ear	Excision	Operation 1910. Subsequent history unknown.
37	Elizabeth B.	44	F.	Married	Ulcer	6 years	Outer side, R. orbit.	Freezing	Completely healed after five treatments. Not seen since 1911.

38	Annie H.	40	F.	Wife of stationer.	Ulcer in site of mole.	12 years	L. cheek under eye.	Freezing	Completely healed after four treatments. Excellent scar. No recurrence $4\frac{1}{2}$ years later. Seen 1915.
39	Thomas M.	45	M.	Carpenter	Ulcer	4 years	L. cheek under eye.	Ionization	Two treatments, 5 years ago. No recurrence. Ulcer healed, leaving almost invisible scar. Seen 1915.
40	Henry P.	60	M.	Gasfitter	Ulcer; senile keratosis.	"Recent"	Nose.	Freezing	Ulcer developed on a senile keratoma. Treated 1910. Ulcer healed perfectly. Not seen since 1911.
41	Helen V.	30	F.	Domestic servant.	Nodule	2 months	Upper lip under nose.	Freezing	Six treatments. Seemed cured. Did not attend further.
42	Richard H.	60	M.	Railway official.	Ulcer	3 years	R. side of nose.	Freezing	Disappeared so completely after two treatments that patient, though warned of incomplete cure, did not attend. Recurrence 2 years later. Again ceased attendance after two treatments of freezing.
43	Hon. Chas. E.	63	M.	Gentleman	Ulcer	"Many years."	Inner canthus, left eye.	Freezing	After three treatments seemed cured. Recurred two years later and remained apparently cured, when he died from other causes.
44	Miss E. M.	64	F.	Spinster	Multiple ulcers	5 years	R. temple, tip of nose	Freezing	Five treatments resulted in complete cure. No recurrence in $4\frac{1}{2}$ years. (Report 1915.)
45	General K.	67	M	Officer	Two nodules	4 years	Neck, wrist	Ionization. Freezing.	Complete removal. Dr. Clarke, of Horley, reports "absolute cure" (1915).
46	William J.	58	M.	Clerk	Ulcer	—	Cheek	—	Medical attendant sent case for opinion only Lost sight of.
47	Eliza R.	64	F.	Married	Ulcer	—	Face	—	Lost sight of.
48	Hannah B.	68	F.	Married	Ulcer and nodule	12 years	L. side of nose and both eyelids.	Freezing	Remains healed and without recurrence four years later. (Report by medical attendant, February, 1915.)

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
49	Mrs. C.	60	F.	Married	Ulcer and warty excrescence.	12 years	Nose	Freezing, two applications.	Healed perfectly. No recurrence up to time of death, four years later from "intestinal obstruction."
50	Sophia B.	74	F.	Married	Ulcer	4 months	R. arm on site of scar, glands not enlarged.	Excision	Sent for opinion only. Referred to medical man in charge who reports (1915) no recurrence.
51	George R.	44	M.	Musician	Ulcer	12 months	Infraorbital, L. side.	Freezing	Lost sight of.
52	Frances S.	42	F.	Seamstress	Nodule and ulcer.	Ulceration 3 months.	L. ala nasi concha L. ear.	Freezing	Four treatments, July 1911. Remains well. No recurrence February 1915.
53	William T.	29	M.	Railway porter.	Rodent ulceration.	—	R. side nose	Freezing	Two treatments, July 1911. Writes, February 1915. No recurrence.
54	Mrs. R.	64	F.	Widow	Ulcer	2 years	L. side nose	Freezing	Two treatments, April 1911. Writes, February 1915. No recurrence.
55	Wm. A.	58	M.	Banker	Ulcer	2½ years	L. side nose	Freezing	Two treatments, October 1911. Ulcer healed. Dubious thickening noted in site two years after. Again frozen once. Recent recurrent ulcer in site treated (1915) two years after.
56	Joseph F.	75	M.	Pensioner	Ulcer	3 years	Chin	Excision	Had had epithelioma of hand 10 years before and hand was amputated. Growth on face seemed increasing rapidly and excision practised. Glands not enlarged.
57	Chas. C.	48	M.	Labourer	Ulcer	4 years	R. ala nasi	Freezing	Apparently cured after five treatments; small new rodent nodule appeared in vicinity of old scar two years after (1912) and a new nodule in 1914 at edge of old scar.

58	Eliza M.	70	F.	Married	Ulcer	—	Nose	Freezing	Reported by her medical man, Dr. Clarke, of Horley, to remain perfectly well since October 1911 to present date.
59	Joseph S.	63	M.	Coachman	Ulcer	—	L. side orbit	Freezing	Treated in country by medical man in charge. First seen 1913. Writes (1915) "My eye does not trouble me much, and when it do want doing I go to the Doctor."
60	Eliza K.	43	F.	Nurse	Ulcer	—	Face	Refuses treatment.	——
61	Edith B.	43	F.	Married	Ulcer	10 years	L. canthus eye	Freezing	Four treatments, April 1912. No recurrence.
62	Mrs. T.	50	F.	Married	Ulcer	2 years	L. side nose	Freezing	Healed after two treatments (June 1910). Remains healed and no recurrence (1915).
63	James W.	59	M.	Labourer	Ulcer	10 years	L. ala nasi	Excision. Freezing.	Was excised, and recurred. Recurrence treated with freezing.
64	Arthur S.	62	M.	Clerk	Ulcer	—	L. infraorbital region.	Freezing	Freezing. April 1912. No recurrence reported to date.
65	Mrs. W.	55	F.	Laundress	Ulcer	18 months	Nose	Freezing	Three treatments, July 1912. Remains healed and no recurrence noted. February 1915.
66	Mrs. B.	30	F.	Wife of doctor.	Nodule	12 months	R. cheek	Freezing	One application. Returns to India unexpectedly. Subsequent history unknown.
67	Richard S.	54	M.	Butler	Multiple ulcers	2 years	Bridge of nose (R. side), R. ala nasi; L. ala nasi inner canthus R. eye.	Freezing	Treated three years ago with freezing for two small rodent ulcers, on inner canthus of R. eye and bridge of nose. These remain healed. He developed new rodent nodule on R. ala nasi about 1 year after, which remains healed after freezing; and he has recently developed a new warty rodent on the L. ala nasi, now under treatment.
68	Miss R.	45	F.	Sister of doctor.	Nodule	18 months	Tip of nose	Freezing	Two treatments July 1912. Remains well (1915).

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
69	William S.	49	M.	Publican	Ulcer in site of burn.	8 years	R. infraorbital	Freezing	Three treatments, November 1912—January 1913. Ulcer remains healed, new nodule half inch removed from old site shows itself two years after. Now under treatment.
70	George P.	56	M.	Dairyman	Ulcer	2 years	Pinna of R. ear.	Excision. Freezing.	Began as wart which was excised, but growth recurred three months later. Received three treatments with freezing February 1913; seen February 1915. No recurrence, no ulcers.
71	Caroline M.	48	F.	Married	Ulcer	3 years	Face	—	Did not attend after first visit.
72	Annie F.	60	F.	Married	Ulcer	3 years	L. lower eyelid.	Freezing	Three applications resulted in complete healing of ulcer (December 1910). Returned with small fresh ulcer January 1913; again frozen.
73	Thos. B.	62	M.	Labourer	Ulcer	—	Face	Freezing	Three treatments with successful result. March 1913
74	Kate S.	44	F.	Housekeeper	Ulcer	6 years	L. cheek	Freezing	Six treatments, last in June 1913. No recurrence; healing complete (1915).
75	Edward S.	61	M.	Bath chair attendant.	Ulcer	15 years	L. side of nose and cheek.	Freezing	Was given three treatments in April 1912. Ulcer healed completely, and has remained healed, but a new ulcer appeared nine months later on the cheek, an inch away from old lesion which remains healed.
76	Frederick T.	53	M.	Decorator	Ulcer	16 months	R. ala nasi	Freezing	Treated three times. No recurrence since 1913.
77	Major M.	69	M.	Retired army officer.	Multiple ulcers	Many years.	Lower L. eyelid and bridge nose.	Freezing	Ulcer on nose completely healed after two applications (1913) and has not recurred since. The ulcer on eyelid proved more obstinate, and he ceased attendance before it was healed. His medical man, Dr. St. John, of Derby, reports (February 1915): "Nose well, eyelid still partially ulcerated."

78	James L.	69	M.	Pensioner	Multiple ulcers. Senile keratomata on hands and ears.	4 years	R. cheek near ear. L. side of forehead.	Freezing	Earliest lesion came in site of bite of fly. Numerous small ulcers grouped in patch. Treated at intervals during six months, quite healed. New ulcer came a year later on forehead; under treatment.
79	Maria T.	49	F.	Married	Ulcer	—	Ear	Freezing	Attended irregularly. Reports herself (1915) "better," but not seen.
80	Mrs. D.	26	F.	Married	Ulcer	3 years	Temple.	Refused all treatment.	
81	William G.	70	M.	Pensioner (ex-gardener).	Ulcer Senile keratosis.	4 years	Forehead. R. supra-orbital.	Freezing	Had one treatment, November 1913. Recurred six months after. Has numerous keratomata on dorsum of hands and on pinna of both ears.
82	Jane C.	62	F.	Married	Ulcers	7 years	R. infraorbital	Freezing	Several small lesions in close juxtaposition in patch under R. eye. Last treatment November 1914. Ulceration healed.
83	Eliza S.	48	F.	Married	Ulcer	12 months	Above R. ey. brow.	Freezing	Four treatments in March 1914. Ulcer healed. No recurrence to date.
84	Joseph C.	54	M.	Labourer	Ulcer	7 months	Neck, behind angle of R. jaw.	Freezing	Father died of "cancer of rectum." Patient treated in 1913-14 with six applications of freezing. Remains well a year after.
85	Miss D.	62	F.	Independent spinster.	Ulcer	10 years	Nose	Freezing	Wartlike growth appeared in site of pressure of pince-nez glasses. Ulcerated. Treated June 1913. Remains quite healed. No recurrence February 1915.
86	Mrs. G.	67	F.	Married	Nodule in warty pigmented keratoma.	6 months	L. side of bridge of nose.	Salicylic acid plaster.	First seen 1909. Died 1913 of cerebral hæmorrhage. Her doctor writes: "Growth had quite disappeared and no recurrence had occurred to time of death."
87	Miss C.	43	F.	Independent spinster.	Nodule	12 months	Back of neck	Freezing	Disappeared with two applications. No recurrence up to date, *i.e.* 12 months after last treatment.

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
88	Mrs. B.	42	F.	Married	Nodule	2 years	Tip of nose	Freezing	Treatment undertaken by medical practitioner in charge of case.
89	Fred V.	60	M.	Stockbroker	Ulcer	6 months	Bridge of nose	Freezing	Treated April 1912. Remained well to date (1915)
90	Mrs. W.	72	F.	Widow	Ulcer, began as nodule.	18 months	Dorsum of foot.	Excision	Ulcer was chronic and no enlarged glands felt in groin. Growth proved on microscopical examination to be a nævo carcinoma. Glands not involved, as demonstrated microscopically. Dr. Clarke, of Horley, who sent the case, reports "Patient still alive (1915), but fear secondary visceral invasion."
91	David N.	83	M.	Hotel keeper.	Ulcer and senile keratomata.	2 years	Cheek	Freezing	Ulcer healed after five applications. Remains healed 20 months later.
92	Abel V.	71	M.	Retired	Nodule and ulcer. Numerous senile keratomata on face and hands.	5 years	Nape of neck	Excision	Father died of "cancerous ulcer on neck," æt. 95. Very numerous senile keratomata on cheek; back of hands. Reported *Brit. Journ. Derm.* March 1915.
93	Eliza B.	50	F.	Cook	Ulcer	6 years	R. temple	Freezing	Healed after six applications. Remains healed to date nine months after last treatment.
94	John L.	80	M.	Solicitor	Ulcer	20 years	Whole of bridge of nose and sides.	Freezing	Rodent ulcer removed by excision 15 years ago. Recurred *in situ*, caused extensive ulceration but superficial. Healed perfectly under freezing; treated 1913, few new nodules treated at margin from time to time.
95	Edwin B.	65	M.	Schoolmaster	Ulcers. One on R. cheek, one on L. ear.	4 months; 8 months.	R. cheek L. ear; R. temple.	Excision. Freezing.	Has numerous keratomata on neck and hands, nose and ear. Ulcer on R. cheek excised eight years ago. No recurrence. New deep ulceration in sulcus between L. pinna and mastoid. Wife died of "cancer of liver" 10 years ago.

96	Fred J.	41	M.	Business-man.	Ulcer	9 years	Whole of chin from lip to under jaw eroded.	Actual cautery. Excision. X-Rays. Excision. Ionisation. Freezing. Radium. Arsenical paste.	Ulcer began in 1906. Spread unchecked by numerous methods of treatment. Recurred twice after complete excision. Worst effect produced by radium, "spread rapidly in five weeks." Latest and most satisfactory effect with arsenical paste.
97	Sarah O.	63	F.	Bargee	Ulcer	2 years	R. thigh	Excision	Microscopically "Rodent." No glands enlarged. Ulcer 2 ins. by 1½ ins. Very vascular, no ridge, no induration. History of pigmented mole in site of lesion.
98	Joseph K.	66	M.	Labourer	Ulcer	—	Face	Freezing	Writes (1915) "Much better," but not seen since last treatment, 6 months ago.
99	Edward C.	53	M.	Financier	Ulcer	9 months	L. eye, inner canthus.	Radium, July 1913. Freezing, December 1913.	Was given two 16-hour treatments with radium on two consecutive days. Ulcer unchecked, and developed severe conjunctivitis in eye. Then frozen twice; ulcer completely disappeared. Remains well 15 months after, but still suffers from pain in L. eye, ascribed to radium.
100	Emily Ll.	69	F.	Married	Ulcer	—	Nose	Freezing.	One treatment. To continue.
101	William F.	68	M.	Labourer	Multiple, two nodules and one ulcer.	Nodules, 7 years. Ulcer, 3 years.	Forehead, cheek, nose.	Freezing. Excision.	First of three cases (in following order) of clinical group "epithelioma adenoides cysticum." One tumour, on forehead, excised for histology, which was "typical of Brooke's disease." Ulcer and other nodule healed with freezing.
102	Alphonso W.	40	M.	Painter	About 60 nodules, none ulcerated.	20 years	All over face, neck, chest.	Has enlisted and cannot be treated.	Strong family history of similar tumours. Histology of rodent. Several tumours deeply pigmented, pigmentation appearing after growth not before.

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
103	William H.	58	M.	Carpenter	Over 100 nodules, two deep ulcers.	15 years	All over the face, neck, ears, chest, arms, axillæ.	Scraping. X-rays. Freezing. Radium.	Ulceration had occurred in two of the lesions only, dating from 1903. Been 8 years under X-ray treatment. The largest ulcer, on neck, healed completely under freezing. The other ulcer, on chin, contracted greatly in size, but patient resented the treatment, and was put on radium, which he is now having.
104	Emily L.	51	F.	Married	Ulcer	5 months	Nose, left side of bridge.	Freezing. One treatment.	Still under treatment.
105	Sir George S.	63	M.	Gentleman	Nodule	5 years	Upper lip, under nose.	Freezing	Disappeared under 3 treatments (April 1913). No recurrence to date (1915).
106	John M.	52	M.	Merchant	Warty nodule	3 months	Upper lip, under nose.	Excision	Subsequent history good to date (12 months since operation).
107	Mrs. G.	65	F.	Widow	Indurated patch on senile pigment.	8 months	R. cheek	Freezing	Disappeared. Treated 6 months ago. No recurrence to date. Has several pigmented patches of old duration, on face and hands; on one of these on face growth appeared as circumscribed patch of induration about the size of sixpence.
108	Chas. L.	57	M.	Banker	Indurated patch	4 years	L. cheek	Freezing	Disappeared with two treatments (4 months ago). Still under observation.
109	Mrs. W.	66	F.	Married	Indurated patch	2 years	L. cheek	Freezing	Disappeared with one treatment (still under care).
110	A. B.	50	M.	Labourer	Ulcer on site of tertiary syphilide.	18 months	L. mastoid	Excision	Subsequent history unknown.
111	George I.	59	M.	Greengrocer	Ulcer	12 months	Nape of neck	Excision	Operation recent. No glandular invasion found. Microscopically "Rodent." Senile pigmented patches on hands.

112	Mrs. P.	46	F.	American lady.	Ulcer	Several months.	L. lower eyelid	X-rays, then radium.	Ulcer healed at first with X-rays and recurred *in situ*. Later history unknown.
113	William B.	52	M.	Butler	Ulcer	18 months	L. side of nose near orbit.	Freezing	Still under treatment.
114	Mrs. D.	59	F.	Married	Ulcer	2 years	L. side of nose	Freezing	Ulcer came in site of scratch, and refused to heal Still under treatment.
115	Mrs. L.	60	F.	Married	Pigmented warty growth on congenital mole.	2 years	Above R. orbit on forehead.	Freezing	Still under treatment. Pigmented mole on forehead began to swell and be uncomfortable two years ago. Has unchanged pigmented mole on chest.
116	Walter H.	43	M.	Barge builder.	Ulcer and nodule.	6 weeks	Ulcer at outer angle of L. eye; nodule on L. malar bone.	Smaller nodule to be excised for histological investigation.	History of having had a portion of the bottom of barge impinging on his cheek so as to cause wound, which became septic; typical rodent ulcer, and nodule developed in positions named. No glandular invasion.
117	John M.	73	M.	Sheep farmer.	Wart and ulcer; senile keratosis.	2 years	Back of neck; dorsum of hand.	Freezing	Lived in New Zealand all his life. Flat pigmented warty growth, size of a shilling, on back of neck. Warty pigmented keratoma on dorsum of left hand, which has ulcerated in last two years. Still under treatment.
118	Mrs. W.	60	F.	Married	Nodule	2 months	R. cheek	Freezing	Father and brother died of cancer, æt. 70 and 65.
					CASES IN WHICH LOWER LIP WAS INVOLVED.				
119	George S.	44	M.	Horse-stud trainer.	Plaque on lip	4 years	Down lip	Freezing and excision.	Character doubtful, and excision advised.
120	Ernest, M.	60	M.	Gentleman	Plaque	3 years	Lower lip	Freezing	Induration disappeared.
121	Dr. E. B. F.	46	M.	Physician	Plaque	Years	Lower lip	Freezing	Induration disappeared.
122	Thomas, B.	42	M.	Labourer	Plaque	1 year	Lower lip	Freezing	Induration disappeared.
123	John T.	52	M.	Postman	Warty patch	—	Lower lip	Freezing	Treated in 1912 (June). No recurrence.

No. of Case.	Name.	Age.	Sex.	Occupation.	Type of Lesion.	Duration.	Distribution.	Treatment.	Subsequent History, and General Observations.
124	James W.	59	M.	Dairyman	Ulcer	Many years.	Lower lip and chin.	Simple dressings.	Too advanced for treatment. Whole area between lip and under-surface of jaw involved. Died recently six months after admission.
125	Henry S.	58	M.	Porter	Ulcer	—	Lower lip	Excision	——
126	Mrs. M.	30	F.	Married	Ulcer	18 months	Lower lip	Radium	Disappeared. No recurrence in two years.
127	William P.	72	M.	Labourer	Ulcer	4 months	Lower lip	Freezing	No glands were enlarged. Patient refused operation and was improved very, considerably by freezing, but ceased attendance before ulcer had healed and was lost sight of.

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held April 15th, 1915, Dr. J. J. Pringle, President of the Section, in the Chair.

Dr. George Pernet showed a case of *rodent ulcer*. The patient was a young man, aged 26 years, attending the West London Hospital. The disease began two years ago as a small pimple in the left nasal-orbital region, which had gradually increased in size. The lesion was a characteristic rodent ulcer about ½ in. across. The case was shown on account of the age of the patient, who was comparatively young for rodent ulcer, though the exhibitor was quite aware that younger patients still had been shown.

The President did not think rodent ulcer at this age was so rare as Dr. Pernet seemed to imply. He had himself seen a considerable number of early cases in medical students, averaging about twenty years of age.

Sir Malcom Morris said he believed the earliest age at which it was recorded in the books as occurring was eighteen years.

Dr. Sequeira said he had published particulars of a case in a boy, aged 12 years,* and he had shown one in a girl, aged 15 years.†

Dr. George Pernet also showed a case of *yellow picric staining of the skin*. The patient was a fair man, aged 40 years, engaged in filling explosive shells. There was general yellow staining of the skin due to handling the picric preparation, especially about the head, neck, and hands. The hair was stained, as also the eyebrows and eyelashes. The patient had attended the West London Hospital for an eczematous condition of the left forearm and back of right hand.

Dr. Dore said that for some time he had been using an ointment of 5 or 10 per cent. picric acid in vaseline in the treatment of ringworm of the scalp, which was

* *Brit. Journ. Derm.*, 1912, xxiv, p. 391 (photo-micrographs of sections).
† *Ibid.* 1909, xxi, p. 57.

considerably stronger than that suggested by Dr. Winkelried Williams. But he had recently given it up on account of the pink discoloration of the urine and the yellow staining of the hair, which sometimes persisted as long as a year after the ointment was discontinued.

Sir Malcolm Morris asked whether any member had had experience of picric acid, when used for burns, causing serious poisoning. In the case of a very bad burn picric acid was applied, and in a short time it appeared in the urine; but the patient did not suffer in health, and the burn healed up.

Dr. A. M. H. Gray said he had seen picric acid used for burns on a large scale, but had never seen a serious accident following.

Dr. H. W. Barber said that in the last three months he had seen two cases. In one he was treating ringworm with picric acid, and after a week the child became ill, the conjunctivæ were stained yellow, and its urine was, in appearance, almost like bile-stained urine. The other case was that of a woman who scalded her chest; picric acid was applied, and her urine became extremely dark-coloured. She suffered from a profuse erythematous rash, and had a temperature of over 101° F. The rash and the temperature had nothing to do with the original scald, he thought. Both patients were well in a month.

Dr. Pernet replied that he could corroborate Dr. Dore's remark in connection with ringworm of the scalp, because, though he had not used picric acid himself for that condition, he had seen ringworm patients in whom it had been used. But it did not, apparently, cure ringworm of the scalp. In answer to Sir Malcolm Morris, he could not recall a case in which the acid had been used for burns with fatal result; cases of that kind seemed to do well, but he considered picric acid solutions should be employed with care, especially as regards percentage strength and the degree of the burn. It must not be forgotten that picric acid was a trinitrophenol, and that phenol was poisonous to children, especially in such circumstances.

Dr. E. G. Graham Little showed a *persistent ulcer of the plantar surface of the right foot resulting from exposures to X-rays.* The patient was a young lady, aged 24 years, sent to him by her father, a general practitioner, on March 22nd, with the following history: His daughter had had for some time a sessile wart the size of a three-penny-piece on the sole of the foot about 1 in. posterior to the little toe. This had been treated by exposures to X-rays, which had been made, without medical supervision, by a very experienced sister at a hospital X-ray department. The first exposure was made in the first week of January, and five applications in all were made at intervals of one week. Dosage was measured not by pastille, but by time exposures—on the first two visits two and a half minutes with current of ½ ma.; on the three subsequent visits four minutes with same current. There was no dermatitis or redness apparent until a week after the last application, which was followed a little later by a

"burn" the size of a florin, with a deep ulceration surrounded by a wide red areola; the whole foot became excessively painful, and the glands in the right groin enlarged. After three weeks' rest the ulcer had shrunk in size, when a return to occupation, and especially use of the foot, resulted in a breaking down of some of the apparently healed tissue, and an extension of the ulceration and surrounding redness. The pain was so severe as to suggest neuritis. When seen by the exhibitor on the date mentioned, there was a deep ulceration the size of some 2 in. by 1½ in., with a deep angry redness of the whole anterior half of the sole of the foot. Part of this redness was ascribable to the septic nature of the surface. Applications of a weak tincture of iodine and absolute rest for three weeks had effected marked improvement.

The PRESIDENT said that his experience of the result of X-rays, applied by others, in the treatment of warts, was that they were curiously capricious. He had been impressed with the frequency of failures to cure and of the production of X-ray dermatitis. A small number of cases successfully healed by radium had come under his observation.

Dr. SIBLEY thought the application of X-rays for warts was a mistake, because no effect on the warts was produced unless a dose of rays was given which was dangerous. He had seen it stated that radium had a very soothing effect on X-ray dermatitis, but he had not had experience of it. In answer to Dr. Adamson, what he considered a large dose was one and a half pastille. For warts he thought the best treatment was ionisation with magnesium sulphate, placing the affected area in a 2 per cent. solution whenever practicable.

Dr. ADAMSON thought these cases of painful plantar wart were best treated by X-rays. It was necessary to give as much as one pastille dose and a half, and sometimes to repeat this, which proceeding was without danger so long as the healthy skin was covered with a lead shield and only the actual wart exposed to the rays. In this case the rays had evidently been applied without this precaution. He would not advise the application of radium in this case, because it was an acute X-ray burn. Radium treatment should only be employed in the late ulcers of chronic X-ray dermatitis. He thought the ulcer would heal in course of time without any special treatment.

Dr. DORE thought that X-rays were particularly suitable for multiple warts, though the latter were capricious in their reaction to the rays. They often improved after a full Sabouraud pastille dose, but if there was no immediate effect he thought it was a mistake to persist in the treatment by this method. He believed the latter course was answerable for many of the bad results.

Dr. PERNET said that for multiple juvenile warts X-rays did not always answer, as he had experienced, warts were very troublesome to get rid of in some cases.

Dr. MACLEOD said that for painful Verrucca plantaris he had obtained more satisfactory results by X-rays than by any other means. He found that two pastille doses at an interval of about four weeks usually sufficed. He had not

obtained good results either by carbon-dioxide freezing or ionisation, but had not employed radium. He had found that ulceration in chronic X-ray dermatitis sometimes healed with small exposures to radium, which at the same time relieved pain.

Dr. Sequeria agreed that for plantar warts in young people, treatment by one and a half pastille doses of X-rays was good, so long as the surrounding skin was protected. In the case of multiple warts, he had often been disappointed with this treatment, but he had occasionally seen extraordinarily good results with the Kromayer lamp. But he had seen it fail in apparently similar cases, and the same uncertain results were obtained with ionisation and with the internal administration of calcium salts. He feared the X-ray dermatitis in this case might recur, but radium might relieve the pain.

Dr. P. S. Abraham thought it was a good thing for the Section that such cases should be brought before it. During the last year he had seen some bad results from X-ray treatment, two of them having been in the practice of eminent radiologists in London. When such untoward results occurred, it seemed a pity that the profession should not know of them. He had not himself used X-rays for warts; his treatments had been ionisation, the electro-cautery, acid nitrate of mercury, and carbonic acid snow.

Dr. E. G. Graham Little also showed a case of *Folliculitis decalvans et atrophicans*. The patient was a lady, aged 55 years, originally resident in Holland, but for the last twenty years living in this country. She was sent to the exhibitor by Dr. Lassueur, of Lausanne, with the following note: "The aspect of the skin seems to me to recall Lichen spinulosus, especially the lesions of the flexual folds and the armpits. But the condition of the scalp is very unusual, and I am altogether embarrassed to make a diagnosis which fits in with the skin-affection." The difficulty experienced by this very expert dermatologist would probably be felt by others. The history given by the patient is as follows: Some ten years ago she began to have an inflammatory condition of the vertex of the scalp, which resulted in a very slow shedding of the hair and the development of bald patches. There were no subjective symptoms, and the affection, as it gave no trouble, seemed to have been ignored. But some five months ago a similar, though very much more rapid, inflammation accompanied by great itching, became apparent on the sides and front of the scalp and the hair now came away in handfuls; and at the same time an itchy eruption was manifest in the axillæ, the groins, and the flexures of the elbows. In these positions there was a folliculitis in grouped patches with a general resemblance to Lichen spinulosus, as remarked by Lassueur, and on the back of the trunk, from the shoulders to the level of the lower angles of the scapulæ,

and on the back of the upper arms there was a diffuse slightly spiny folliculitis, also itchy, and reddened. In the axillæ and groin, in positions where hair was normal, this had been almost entirely destroyed, as it had been on the scalp, and with the exception that there was very marked atrophy on the scalp and as yet none of the skin in the axillæ and groin, the conditions in these parts were similar to those of the scalp. The disease of the scalp was obviously that familiar under the name of Folliculitis decalvans, with the subsequent atrophy on account of which the addition of "atrophicans" was made to the title. This terminal atrophy led to a superficial resemblance to alopecia, and the term "pseudo-pelade," invented somewhat unnecessarily by Brocq, expressed this resemblance. The exhibitor had considered the possibility of an early Darier's disease as an explanation of the features resembling Lichen spinulosus, especially as it appeared in the axillæ and groins, positions where Darier's dermatosis was most frequently met with. In the magistral description of the disease contributed by Darier to the *Pratique Dermatologique*, he stated that the "sites of the disease (foyers morbides) were frequently, but not exclusively, follicular," and for this reason among others he rejected the title "keratosis follicularis" proposed as a synonym. And he remarked, further, that though the scalp is frequently the site of disease "it never becomes alopecic." The exclusively follicular character of the lesions in this case, and the atrophy of hair wherever this was normally present, seemed to constitute important differences, therefore, which excluded it from Darier's disease. But it could not well be maintained that the pathological processes in the case of the scalp and the other hairy parts were separable, for in both cases there was essentially an inflammatory folliculitis with destruction of hair. The exhibitor had not seen or read of an exactly similar combination, and therefore contented himself with recording this case under the non-committal title which seemed best to express the pathological facts. In addition to the itching, which was considerable, there were other and more anomalous subjective symptoms. The patient complained of always feeling cold, even when immersed in a hot bath; she suffered from frequent headache and from habitual constipation. Menstruation had ceased five years ago. She had two healthy children, and there was no family history of any importance.

The PRESIDENT remarked that he would have unhesitatingly diagnosed the condition of the scalp as a Folliculitis decalvans and the follicular keratosis of the axillæ and neighbouring parts as probably an early stage of Darier's disease. He had no opinion to offer as to the association between the two conditions present.

Sir MALCOLM MORRIS said there were so few cases of Darier's disease recorded that it was difficult to know whether the two diseases named were associated. If there had been no lesion on the non-hairy part of this patient's body, he believed there would have been no question as to the diagnosis of the scalp condition. Many cases of Folliculitis decalvans had been seen since the first case shown at the old Dermatological Society of London about 1882. He did not know whether the present case was an early one of Darier's disease or not.

Dr. ADAMSON thought the scalp condition was certainly Alopecia cicatrisata or Folliculitis decalvans. He knew of no case in which this affection had been present also in the axillæ, but the axillary eruption in this case might well be called "Folliculitis decalvans," because there was folliculitis with loss of hair. Its presence there seemed to throw some light upon the scalp condition, and suggested that this was also primarily a folliculitis. He did not regard the eruption in the axilla as Darier's disease, for Darier's disease was a pseudo-folliculitis and not really an affection of the follicles.*

Dr. SEQUEIRA said he had shown one case before the Dermatological Society of London, in which the diagnosis of Darier's disease was agreed to,† and in that case some of the elementary lesions were very much like those in this case. His view of the present case was much like the President's, that the lesions on the scalp were those of Folliculitis decalvans, while in other regions they resembled those of Darier's disease. He thought it would be worth while having sections taken.

Dr. MACLEOD agreed that the condition of the scalp was Folliculitis decalvans, and believed that the affection of the axillæ belonged to the same category, and was a folliculitis leading to keratosis at the mouth of the follicle and atrophy of the hair. He did not consider that the affection in the axillæ was Darier's disease. He had made a number of sections of Darier's disease and found that the follicles were affected as well as the surrounding epidermis.

Dr. E. G. GRAHAM LITTLE showed a case of *multiple rodent ulcers of the left cheek of unusually short duration*. The patient was a man, aged 43 years, a barge builder by trade, and he gave the following history: On February 13th of this year he was repairing the bottom of a barge, which was much infested with barnacles and

* Audry and Dalous, *Journ. des Maladies Cutan. et Syph.*, 1904, xvi, p. 801 (abstracted in *Brit. Journ. Derm.*, 1905, xvii, p. 232); and Constantine and Levrat, *Ann. de Derm. et Syph.*, 1907, 4me ser., viii, p. 337 (abstracted in *Brit. Journ. Derm.*, 1908, xx, p. 204.)

† *Brit. Journ. Derm.*, 1905, xvii, p. 266; also figured with sections in the speaker's "Diseases of the Skin," 2nd ed., p. 475.

weeds, when his left cheek came into violent contact with the foul bottom, causing two wounds in the position of the present lesions. The upper one was at the outer angle of the left orbit, and in this position an abscess formed, from which foul matter was evacuated. The centre ulcerated, and when seen there was a shallow ulcer surrounded by a salient hard ridge, the whole lesion being the size of $1\frac{1}{4}$ in. by $\frac{3}{4}$ in., and involving the upper and lower eyelid and the adjoining cheek. Over the malar eminence, an inch below this ulcer, there was a waxy nodule without ulceration, the size of a threepenny-piece, which was ascribed to the same accident. No glands could be felt to be enlarged in connection with these lesions. Clinically both ulcer and nodule were typical of rodent growth. It was proposed to excise one of the lesions for microscopical report, and the result of this examination would be contributed to a later issue of the *Proceedings*.

Dr. J. H. Sequeira showed a case of *syphilitic gummata in a patient with Diabetes insipidus*. The patient, a Jewish porter, aged 35 years, attended the Skin Department of the London Hospital, on March 13th, 1915, with definite gummatous infiltration about the elbow, the inner side of the upper arm, and the upper part of the forearm on the right side. The lesions had not broken down and had been gradually developing during the past two months. The patient was a stout, flabby, anæmic man, and he stated that he had been in the London Hospital in 1908, under Dr. Robert Hutchison, suffering from Diabetes insipidus. By the courtesy of Dr. Hutchison the exhibitor was able to add the following particulars to the case: Four days before his admission (in 1908) the patient began to pass large quantities of urine and was very thirsty. There was a history of gonorrhœa, but none of syphilis. While in the hospital the patient passed as much as 1076 oz. of urine in twenty-four hours, and he was still passing from 400 to 600 oz. *per diem*. The right testicle had been removed for tuberculous disease, and the patient stated that he had lost all sexual desire. On March 24th, 1915, the Wassermann reaction was found to be positive. A further examination of the patient showed that the pupils reacted normally to light and accommodation. The patellar and plantar reflexes were normal.

The case was shown to emphasise the fact that the clinical group

of symptoms known as Diabetes insipidus, polydipsia and polyuria was often of syphilitic origin.

Head and Fearnsides published in *Brain*, the case of a male, aged 27 years, with a history of syphilis which was contracted at the age of twenty-one. Here, also, there was an acute onset of polyuria and polydipsia—Diabetes insipidus. That patient had Argyll-Robertson pupils. In 1911, a woman, aged 37 years, was in London Hospital with multiple gummata of the forearm; and in 1909 she had a sudden onset of polydipsia and polyuria. Her husband died of general paralysis of the insane. She also had Argyll-Robertson pupils. The present patient gave no history of syphilis, but owned to acquiring gonorrhœa in 1905.

Mr. McDonagh said he had no doubt that there was a very marked connection between syphilis and Diabetes insipidus, and in his opinion he thought the condition was more frequently to be met with in the congenital than in the acquired form. The lesion was in the posterior lobe of the pituitary body, and most probably a vascular one to commence with. Diabetes insipidus occurring in acquired syphilis was almost invariably associated with symptoms pointing to an involvement of the central nervous system, the lesions being degenerative in character. The patient exhibited had had diplopia; the lesion appeared to have been a vascular one, and it was when the double vision set in that the symptoms of Diabetes insipidus manifested themselves. Now the patient stated that he had completely lost all sexual desire. As the trouble was not usually recognised until it had persisted for some time, and owing to the degeneration which had resulted in the meantime, nothing could be expected from antisyphilitic treatment. If, on the other hand, the case was taken early, the symptoms would disappear under treatment. The speaker referred to a case presenting an anomalous skin eruption, which Dr. Sequeira had recently shown before the meeting. The case was referred to the Pathological Committee for a report. It would be remembered that the patient died and that post-mortem a granulomatous lesion was found in the posterior lobe of the pituitary body. The boy had Diabetes insipidus when he died.

Dr. F. Parkes Weber said he would have thought that one of the commonest recognised causes of Diabetes insipidus was syphilis, either congenital or acquired. Another undoubted (occasional) cause was tuberculosis. In a man, aged 37 years, under his care in hospital with Diabetes insipidus and pulmonary tuberculosis, the polyuria and thirst were said to have immediately followed the surgical removal of an enlarged lymphatic gland in the neck one year and a half previously. In that patient the blood-serum gave a negative Wassermann reaction for syphilis. There was no hemianopsia, the visual fields were normal. Röntgen-ray photographs of the base of his skull (taken by Dr. James Metcalfe) showed no enlargement of the pituitary fossa.

Dr. Kinnier Wilson alluded to cases of Diabetes insipidus associated with optic atrophy. There was good reason, experimentally and clinically, to suppose that in these cases of Diabetes insipidus the lesion was a disturbance of the

pituitary body; it was immaterial what the disturbing disease was. The transient diplopia of Dr. Sequeira's case was of considerable significance as indicating some basal trouble; and it would be interesting to ascertain the visual fields in this man to see if he had Hemanopia fugax; it was occasionally seen in cases of Diabetes insipidus. Conceivably, the pathogenesis of this case was a certain degree of basal meningitis, some secondary internal hydrocephalus, and some pressure on the floor of the third ventricle.

Dr. PERNET said he had seen one or two cases of Diabetes insipidus in syphilitic patients, but before the days of salvarsan the treatment by mercury of the syphilis did not lead to any improvement to speak of. It would be instructive to see the case again after treatment from the syphilitic standpoint.

Drs. S. E. DORE and S. A. KINNIER WILSON showed a *case for diagnosis*.* Dr. Wilson said he was concerned with the neurological side of the case, because he thought some light came from that side. The story was that the man had had a gradual onset of the trophic lesions on the hands and feet during eighteen months. He had lived a good deal abroad—in India and Africa—and had been travelling officially on P. and O. boats for a long time. There were indications of involvement of his peripheral nerves; he had definite therm-anæsthesia in the legs as far as the knee on the right side, and below the knee on the left side; always essentially insular or patchy—*i. e.* not corresponding to any particular segment of the spinal cord. He also had therm-anæsthesia in the hands, though not so marked; there was slight diminution of appreciation of pin-prick over his feet, insular in character, and not corresponding to parts where the skin was thicker than usual. He felt a touch everywhere over his limbs except where skin was thick and interposed a mechanical reason for reduced perception. His localisation and muscular sense were preserved. Another important point was absence of the Achilles jerk on both sides, while the knee-jerks were normal. The plantar responses were of the flexor type. There was no evidence that in this case one was dealing with a central lesion. In the ordinary course it might be thought the case was one of syringomyelia, but for the following reasons he did not think it was so: (1) The alterations of sensation were essentially of peripheral type, and there was no segmentation in the distribution of the forms of anæsthesia, a point of considerable significance. (2) In cases of syringomyelia, if there was change in the reflexes they were, as a rule, exaggerated, and in some cases there was marked spasticity, with ankle clonus and an extensor

* Shown at the last meeting (March 18th); see *Proceedings*, p. 122.

response. This case, however, showed the opposite condition. (3) Passing to matters of opinion he did not think this man's face was quite normal; there seemed to be a slight commencement of involvement of the skin of the face, an approximation to the leonine facies, which was not found in syringomyelia. He could not say there was definite thickening of the peripheral nerves; but he was inclined to regard the case as one of lepra. It was undesirable to emphasise the dissociation anæsthesia, because that was not pathognomonic; it was met with in various pathological conditions. The view he had expressed tentatively was the result of a summary of the points presented by the case. He might take an opportunity, at a later date, of making a histological examination of some peripheral nerve or a part of the skin, which, however, did not show anything approximating to nodular formation. He showed lantern slides of a case of lepra, clearly demonstrating degeneration of the dorsal or posterior columns essentially of radicular type.

The PRESIDENT said members would recollect that the diagnosis of Dr. Kinnier Wilson was that generally adopted at the last meeting of the Section. His own remarks as to the possibility of a syringomyelia were made primarily to raise a debate, and were based upon a case of that disease in which the hands were affected in a manner similar to that exhibited by the patient under discussion.

Dr. P. S. ABRAHAM said he would not venture a decided opinion in an early case of leprosy without a very thorough examination. He had not done more than casually look at the present patient, and then his first idea was that it was a case of acromegaly. The man seemed to have no loss of sensation, and he (the speaker) could not feel any thickening of nerves. Moreover, if this were leprosy, one would expect the man to show some marks of it, not only patches of anæsthesia or paræsthesia, but pigmentary changes in some region of the skin. The tongue seemed syphilitic. The case illustrated the difficulty of diagnosing leprosy in an early stage. He confessed that it did not strike him at first sight as a case of leprosy.

Dr. PERNET thought the patient's facies was suggestive of lepra, and there was something about the man's appearance which made one instinctively think of leprosy. Dr. Wilson had refrained from laying stress on the bullous condition of the feet, which was a very important feature of the case. With regard to the dissociation of sensation he had diagrams of a case he had had under care with the late Dr. Radcliffe Crocker. The case was one of advanced nodular leprosy. Dr. Wilson might be interested in the diagrams. Dr. Pernet would also call Dr. Wilson's attention to two papers in *Lepra*.* Leprosy began in such insidious

* Woit, of Petrograd, in *Lepra*, 1900, i, pp. 50 *et seq.* Abstract by Pernet, *Brit. Journ. Derm.*, 1901, xiii, pp. 281, 400. Nonne, in *Lepra*, 1905, v, pp. 22 *et seq.*, with diagrams.

ways that one must not be put off one's guard because the case was not a straightforward one in the early stages. The man had also been in leprosy districts. A good nerve to investigate was the external popliteal. It was worth while giving iodide of potassium in order to promote the flow of mucus from the nose, and examining the resulting discharge. The contents of the bullæ should also be investigated.

Dr. MacLeod said that he did not see any definite evidences of leprosy. He did not regard the features as leonine, and observed that leonine features resulted from nodular leprosy of the face, and that this case, if it were leprosy, was a nerve case, and there were no signs of nodules. He considered that it was not unusual for the hands and feet to be symmetrically involved in nerve leprosy without any thickening of the nerves or cutaneous lesions.

Dr. Kinnier Wilson, in reply, reminded the meeting that he disclaimed any dogmatic statement about the case.

Dr. S. E. Dore showed *cultures from the case of favus of glabrous skin*.* Dr. Dore said that as the cultures were not regarded as typical of *Achorion Quinckeanum*, he was requested by the Section to grow them on Sabouraud's medium. He thought the result was still unsatisfactory in regard to the diagnosis of *Achorion Quinckeanum*. Some of the cultures had been grown at Westminster Hospital, by kind permission of Dr. Hebb, on Sabouraud's solmedia (Chopping), and he (Dr. Dore) had also grown some on the same medium. The former all grew as a white, downy button, with fine, radiating branches, but in his culture there were concentric rings, as described by Sabouraud in old cultures of *Achorion Quinckeanum*. He thought this was important as showing the great variety ringworm cultures might assume according to the media on which they were grown.

Dr. MacLeod said he did not think the culture was *Achorion Quinckeanum*, and showed a typical culture of that fungus which was more luxuriant and fluffy, and he thought that Dr. Dore's culture was probably a faviform trichophyton.

Dr. Bolam said he did not regard the cultures as *Achorion Quinckeanum*.

Dr. W. Knowsley Sibley showed a case of *Epidermolysis bullosa*. The patient, F. B—, was a single woman, aged 50 years, a needlewoman by occupation. Her father had died from cancer of the stomach, aged 63 years; her mother from paralysis, at the age of 62. There were nine children in the family, the patient being the sixth, five of whom were still living and well, one having died in infancy, and two were stillborn. The patient was unaware of any other case of skin

* Shown at the February meeting; see *Proceedings*, p. 97.

trouble in the family, except a maternal great aunt, who suffered from "sore" hands. When her mother was in her fourth month of pregnancy she had a severe shock from seeing a man coming out of a smallpox hospital, and the patient's condition was attributed to this cause. She was in doubt as to whether she was born with any skin trouble, but at the age of 2 her body was stated to have been covered with blisters, with the exception of her face and back. At the age of 7 she was in a children's hospital for two years with the same condition, at the end of which time she was discharged as better, but by no means cured. At the age of 12 the skin condition was as bad as ever, and she had congestion of the lungs. She was admitted into a general hospital, where she remained for eight months. She has been attending various hospitals and infirmaries on and off ever since. The patient could never remember being free from blebs on some part of the body, but they had never been present on the face, head, lumbar region, or soles of the feet. She stated that her nails and teeth had crumbled away when she was aged about 14. She had had all the decayed stumps removed from her mouth sixteen years ago. As a child the skin was very irritable; of recent years there had not been any irritation, but the parts where the bullæ arose ached and burned. The patient had earned a very precarious livelihood, as whenever she attempted to follow her occupation with the needle blebs at once appeared on her fingers. Similar lesions had frequently been present inside her mouth, both on the gums and on the tongue, and if she attempted to eat a piece of meat or hard food blisters arose on her gums. She stated that formerly the blebs were most abundant over her body, especially on the shoulders, chest, and abdomen, a few being scattered about the limbs. Of recent years the blebs had been chiefly present in the neighbourhood of the larger joints, such as the extensor surface of the knees and elbows, the external parts of the ankles, and the dorsum of the feet. There had never been any affection of the conjunctivia or genitalia, nor any trouble with her hair. Of recent months she had lost a considerable amount of flesh, and the skin over the whole body was greatly wrinkled.

On inspection a considerable amount of superficial scarring and pigmentation were present over the upper regions of the chest and shoulders. Smaller round and oval pale scars were abundantly

present over the arms and legs, practically confined to the extensor surfaces. Recent blebs were present over the right olecranon process, both patellæ, and the dorsum of the right foot. The skin of the hands was withered and much scarred, and a recent small hæmorrhagic bleb was present on the dorsum of the right hand, the palms were thickened, the nails of both fingers and toes were absent and replaced by strands of fibrous tissue. Scarring was present in the mouth, especially over the alveolar processes. She complained of indigestion and discomfort in the epigastric region; there was some fulness and dulness on percussion here, with considerable tenderness on palpation. Carcinoma ventriculi was suspected.

The growth obtained from a recent bulla was the *Staphylococcus albus*.

The blood-count was as follows: Red blood cells, 4,330,000 per cubic millimetre; white blood cells, 4,300 per cubic millimetre. Differential leucocyte count: Polymorphonuclear cells, 62·5 per cent.; lymphocytes, small, 25·5 per cent.; lymphocytes, large, 7 per cent.; eosinophiles, 4 per cent.; basophiles, 1 per cent.

Dr. Sibley said that if the bullæ were the result of traumatism one would expect them to be over the joints, etc. It was difficult to know what to include in this group. The present appearance of the case reminded him of one which he published in the *British Journal of Dermatology* for 1914. A woman, at the age of 33, developed a condition very similar to Epidermolysis bullosa. Up to that age she had a normal skin, but the tail of a big dog struck her on the shin, a blister arose, and from that time she had a succession of bullæ over the anterior surfaces of both legs and one arm, lasting for thirty years, though her nails remained normal, as did the remaining areas of skin.

The President said the case was well known to many of the members of the Section. It was now seventeen years since Dr. Colcott Fox first exhibited her at the Dermatological Society of London. He was much struck by the remarkably slow progress of her disease.

Dr. Adamson said he remembered this case because the patient had for some years attended Dr. Colcott Fox's clinic at Westminster Hospital. Dr. Fox used to call attention to the general atrophy of the skin—to what he called "tissue-paper skin," and he had suggested that "this atrophy was not secondary to repeated phlyctenæ, but an essential outcome of the disease process." *

Dr. J. H. Sequeira showed cases of *favus of scalp and trunk*. Two children of Polish parents, twins, aged 6 years, the subjects of extensive favus of scalp and trunk. The children were born in

* *Brit. Journ. Derm.*, 1905, xvii, p. 224.

England. The scalps were universally affected, and there were large, irregular, sulphur-yellow crested masses on the back of the boy and on the shoulder of the girl. The fungus was the *Achorion Schönleinii*.

Mr. Haldin Davis showed a case of *congenital syphilis*. The exhibitor showed this case chiefly as an example of far advanced congenital syphilis. It displayed ulceration of tertiary type, somewhat rare in congenital cases, and it also exhibited very clearly the well-known stigmata of congenital syphilis in the peg-like Hutchinson teeth and the remains of old interstitial keratitis. The active disease chiefly affected the nose. There was some external ulceration, but in addition to that the nasal septum had almost entirely disappeared. The soft palate had been destroyed previously by disease now quiescent, and there were also scars of old ulceration on the cheek. The exhibitor raised the question as to how far the administration of salvarsan was likely to benefit the patient.

Dr. Sequeira said he had had several cases of this type, and he had treated some by mercury and some by salvarsan, and he did not think there was much difference in the result. In this case he would be inclined to combine mercurial inunction with iodide of potassium internally. Half a drachm of blue ointment rubbed in daily, he thought, would bring about rapid improvement.

Dr. Bolam thought this was the type of case in which salvarsan was particularly useful, because the general constitutional condition of these children was not very good. He would give 0·2 or 0·3 grm. and repeat it.

Dr. MacCormac thought this case suitable for salvarsan; mercury would not clear up the lesions so quickly.

Dr. Gray said that, in his experience, syphilitic ulcerative conditions healed up much more quickly under salvarsan than they did under mercury, though the latter alone might be eventually effective.

The President said his view also was that the active ulceration would be benefited very much and very quickly by the use of salvarsan.

Dr. Douglas Heath showed a case of *Lichen planus*. Patient, a male, aged 56 years, had an abundant eruption of Lichen planus on the whole of the trunk, upper part of thighs, backs of hands and fingers, and a few scattered areas on the flexor surface of the forearms and about the knees. The patient had also many pigmented nævi on the trunk and senile keratoma of the forehead. The eruption of Lichen planus on the body and hands had, according to the patient, been appearing since infancy, but the individual lesions had increased

in size during the last ten or fifteen years, especially on the fingers and backs of the hands. The eruption always tended to become more prominent in summer and winter, and to flatten down and disappear in spring and autumn. Nearly all the fingers were covered on their dorsal surface with raised, bluish-red, smooth, and shining patches as large as, or larger than, a threepenny-piece. The upper half of the chest was thickly covered with finger-nail sized pigmented areas in the region where the eruption had been present, and in many places, as for example, over the upper three ribs on the front of the chest, there was an almost continuous band of pigment. On the fronts of both wrists and forearms also small deeply pigmented areas of skin could be seen. There was no eruption in the mouth, and the patient did not complain of itching. On the upper and inner side of the right thigh there was a narrow band of atrophic skin running backwards towards the perinæum, which by its contraction was pulling downwards a fold of skin from the abdominal wall. This atrophy had probably occurred in the situation of a band-like area of Lichen planus, as an area of linear Lichen planus, of pink colour and about half inch wide, could be seen on the outer side of the same thigh almost parallel with the groin.

A section cut from a small raised patch on the dorsal surface of one of the fingers showed marked thickening and downward growth of the prickle-cell layer, as well as hyperkeratosis and parakeratosis. There was only a small amount of cellular infiltration of the papillary body and none beneath it.

Dr. HEATH said there was an extraordinary persistence and recurrence of large Lichen planus-like patches on the hands, body, and thighs, followed by long-continued pigmentation, and in places by atrophy. The patches on the upper part of the thigh he considered were due to atrophy following the Lichen planus-like patches. He did not remember having seen a case in which large flat patches were so widespread on the collar region; Kaposi's was the only similar case he could find in the records. In the case shown the eruption seems to have begun in infancy, and at any rate had been present as long as the patient could remember. Members might perhaps think that the lesions on the back of the hands were similar to those on the face—plain, warty lesions, not Lichen planus—but the lesions on the hands disappeared, whereas those on the face did not. The section he exhibited showed, for Lichen planus, very little congestion of the papillary body; but, as it was a fairly thick papule from the back of the hand, its age might account for the congestion disappearing. Dr. Adamson had seen the section, and thought it was Lichen planus and not verruca. Dr. Heath had never seen such long persistence of Lichen planus

lesions. Fresh lesions were constantly developing, older ones disappearing. The patches on the hands were much more raised a fortnight ago. Dr. Sequeira had shown a somewhat similar case, the knuckles being involved, but the skin section did not, he believed, show acanthosis.

The PRESIDENT said he had never seen a case identical, or even very similar. He accepted the diagnosis of Lichen planus on the ground of the characteristic primary lesions, but he questioned the accuracy of the history that the disease began at the age of three months. It was notable the mucous membrane had never been involved.

Dr. DORE said that on account of the early onset, long duration, and clean-cut atrophy left by the lesions and the presence of a linear streak behind the knee, he thought the case might be an unusual example of linear nævus.

Dr. ADAMSON thought the case one of great interest. He regarded the condition, including the streak on the thigh, as Lichen planus; it resembled Lichen planus annularis, and he had seen such cases persist for many years. He doubted the correctness of the history, which put back the onset of this case to early childhood.

Dr. MACLEOD regarded the whole condition as Lichen planus, certain of the lesions on the fingers suggesting the hypertrophic form. He had not seen a case with a like distribution. The Section also confirmed this view.

Dr. J. H. SEQUEIRA and Dr. W. J. OLIVER showed *cultures from a case of Microsporon tinea of the scalp in an adult*. The case has been reported in the *British Journal of Dermatology*, xxvii, No. 4, p. 119.

CURRENT LITERATURE.

THE VACCINE TREATMENT OF RINGWORM OF THE SCALP.

ALBERT STRICKLER. (*Journ. Cut. Dis.*, 1915, vol. xxxiii, p. 181.)

A VACCINE was prepared from a growth of ringworm on French proof agar made from affected scalp hairs. The growth was removed and rubbed up with crystals of sodium chloride, and to this enough sterile distilled water was added to make a normal saline solution. In this way about 500 c.c. of vaccine was made, to which 10 c.c. of chloroform was added to kill the growth. The vaccine was then heated to 60° C. for one hour, and preserved by the addition of ·25 per cent. of phenol.

The dose employed was 1 c.c., which was given at intervals of three days, being injected between the scapulæ. About thirty-six hours after injection, but only after the patient had had six or seven injections, an infiltrated area developed at times at the point of injection, but in no instance was there any constitutional reaction following the injection. The number of injections varied from seven to seventeen, and by means of these the ringworm parasite was caused to disappear from the hair in a certain proportion of the cases.

The writer considers that the injections should be combined with local treatment. J. M. H. M.

XERODERMA PIGMENTOSUM FOLLOWING SEVERE SUN EXPOSURE, WITH REPORT OF TWO CASES. W. T. Corlett. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 164.)

The first of the cases recorded in this contribution belonged to the classical type of Xeroderma pigmentosum. The patient was a child, aged 3 years. The disease first appeared on, and was limited to, the sun-exposed areas and the pigmented eruption was followed by fungoid tumours, which developed into clearly-defined epitheliomata of the prickle cell type and led eventually to marasmus and death.

The second case belonged rather to the type of chronic solar dermatitis and occurred in an adult some years after going to Mexico, where the sunshine is tropical in its intensity. The patient said that a few years after going to Mexico, where he had been much in the sun, his skin became rough and the exposed parts covered with mottled, dark-coloured freckles, and later by scaly and finally by horny patches.

The writer considered that the condition was dependent primarily on an inherited susceptibility to certain rays of the solar spectrum.

J. M. H. M.

THE SYSTEMIC POSITION OF THE GENUS TRICHOPHYTON MALMSTEN, 1845. Albert J. Chalmers. (*Journ. Trop. Med. and Hyg.*, No. 19, vol. xvii, p. 289.)

In this communication the systemic position of the genus Trichophyton is discussed at considerable length, the conclusions with regard to it being as follows:

"The genus Trichophyton Malmsten, 1845, belongs to the family Gymnoascaceæ Baranetzky, 1872, which is included in either Brefeld's Hemiascomycetes or De Bary's Ascomycetes, according to the form of classification adopted by the reader."

J. M. H. M.

URTICARIA PIGMENTOSA, PARTICULARLY IN REGARD TO ITS HISTOLOGY. Frank Crozer Knowles. (*Journ. Cut. Dis.*, 1915, vol. xxxiii, p. 171.)

In this contribution five cases of Urticaria pigmentosa were recorded. A lesion of the macular type and of a reddish-brown colour was excised in one of them for histological purposes. The microscopical appearances presented by sections of it were similar to those which have already been described in detail by Gilchrist, Little, and others. The writer agrees with most recent observers that there is a congenital abnormality of the skin, evidenced by the finding of mast cells in the apparently normal skin of those suffering from this affection, and that the lesions are called forth by some toxin acting upon the abnormal skin, the nature of which toxin is unknown.

J. M. H. M.

THE BRITISH
JOURNAL OF DERMATOLOGY.
JUNE, 1915.

SPURIOUS ERYTHROMELALGIA: REMARKS ON NON-SYPHILITIC ARTERITIS OBLITERANS IN JEWS.

By F. PARKES WEBER, M.D., F.R.C.P.

The patient,* S. M—, aged 38 years, a Jewish tailor in London, was a well-nourished man, of medium size and weight, who said that his present trouble commenced three years ago, and that otherwise (excepting for hæmorrhoids, which had been removed by operation five years ago) he had enjoyed good health. When only one year of age he had been brought by his parents from Prague (Bohemia) to London, and had remained in England since then. He denied ever having had any kind of venereal disease, and his blood-serum (April, 1915) gave a negative Wassermann reaction for syphilis. He had always been very moderate in regard to alcohol. In regard to tobacco he stated that he had been in the habit of smoking cigarettes, on the average eight or nine daily.

His present trouble, which, as mentioned above, commenced three years ago, was at first confined to the left lower extremity. The left foot was evidently then affected in a similar way to that in which the right foot was now affected. The distal portion of the foot was red or cyanosed, and he suffered from a kind of "intermittent claudication" on walking. That is to say, he had to stop walking every five minutes or so on account of pain in the sole of the foot, which, however, rapidly passed off on resting for a few moments. About two years later the symptoms improved in the left foot, in fact they

* The case was shown at the Dermatological Section of the Royal Society of Medicine on May 20th, 1915.

seemed to disappear, but similar symptoms developed in the right foot, and these had persisted since then. He could not walk more than about five minutes without inducing a pain in the sole of the right foot, which obliged him temporarily to stop walking till the pain went off, which it very quickly did do. In neither lower extremity had he, however, experienced the cramp-like pains in the calf-muscles generally described in cases of "intermittent claudication." Objectively at the present time the toes of the right foot appeared red or bluish-red (cyanosed), the exact colour varying according to position, surrounding temperature, etc., but the colour did not fade, as it did in some cases, if the patient repeatedly flexed and extended his ankle-joint. That phenomenon, which by Erb had been termed "Œhler's sign," was apparently not very rarely found missing. Recently an ingrowing toe-nail had had to be removed, on account of painful ulceration, from the right great toe, but this slight operative interference, in spite of the ischæmic circulatory condition, had not been attended by any untoward result. The left foot was at present of natural colour, but in neither foot had any pulsation been felt in the arteria dorsalis pedis or in the other pedal arteries. Normal pulsation could be felt on both sides in the femoral artery at the groin. Roentgen-ray examination (Dr. J. Metcalfe, May, 1915) showed nothing abnormal in the phalangeal or metatarsal bones of either foot. No wasting could be detected in either lower extremity. The knee-jerks were brisk, but the plantar reflexes could not be obtained. There was no anæsthesia. There was nothing abnormal in regard to the radial pulse on either side. The brachial systolic blood-pressure was 120 mm. Hg. There was no evidence of any disease in the mouth, in the thoracic or abdominal viscera, or in the central nervous system.

The recent general treatment had included rest in bed, ordinary diet, and the internal use of iodipin. The local treatment of the right leg had consisted in the employment, on alternate days, of a hot-air bath and of diminution of the atmospheric pressure. For the latter purpose the lower limb up to the knee was fastened into a glass box, connected with an air-pump for sucking out the air, such as was sometimes used for Bier's passive hyperæmia method of treatment. Unfortunately, very little improvement had yet been obtained since the commencement of the treatment in April, 1915. Aspirin was useful, as it diminished the pains, which occasionally were bad enough

to prevent sleep at night. Such more or less continuous pains, which often caused sleeplessness, and so gradually wore the patients out, had to be distinguished from the above-mentioned pains of the "intermittent claudication" type.

Remarks.

Dr. Weber regarded the case as a typical example of the kind of non-syphilitic arteritis obliterans (the "thrombo-angiitis obliterans" of Leo Buerger), of which he had previously repeatedly demonstrated examples at the Royal Society of Medicine (chiefly at the Clinical Section). The affection occurred almost exclusively among adult Jewish males, of young or early middle age, especially those from the eastern portions of Central Europe; a point to be noted in the present case was that the patient was only one year old when he migrated to England. The affection was not absolutely limited to the poorer classes; Dr. Weber had met with one case, and knew of another, in which the patient was in very good financial circumstances. In nearly every case there was a history of habitual cigarette smoking, and in some cases the patients, owing to being employed in cigarette factories, had been able to smoke large numbers of cigarettes daily without paying for them. In one or two instances in which the favourite cigarettes patronised by the patients had been chemically examined, nothing special had been discovered about them, and it was extremely improbable that the cigarette smoking was more than a contributory factor in inducing the disease. The essential cause of the disease still remained unknown. In the typical cases met with in London, evidence (by the history, Wassermann reaction, etc.) of acquired or inherited syphilis was remarkable for its almost invariable absence. The blood-pressure was seldom high, and there were seldom signs of general arteriosclerosis or of chronic interstitial nephritis. Usually one of the lower extremities was the site of the first symptoms, but the other lower limb was often attacked later on, and occasionally one or both upper extremities or another part of the body became involved.

The affection progressed by periods of exacerbation, alternating with long periods of intermission. Surgical interference (amputations, which should not be performed too high up), when it became

necessary, was chiefly called for owing to intolerable pain and insomnia during exacerbations associated with ischæmic ulceration, or owing to the occurrence of acute septic complications. Amputation seemed, according to Leo Buerger's publications on the subject, to have been much more frequently resorted to amongst the sufferers at the Mount Sinai Hospital at New York than amongst those in London. In regard to the avoidance of amputation, much depended on whether the patient had sufficient patience and powers of endurance to carry him over the periods of painful exacerbation of the disease. The affection was sometimes complicated by attacks of phlebitis and venous thrombosis, but these were generally recovered from without the patient's condition having been obviously rendered (permanently) worse.

"Intermittent claudication," when it occurred in one or both lower extremities, was generally described as a cramp-like pain in the muscles of the calf or in the small muscles of the foot, induced by walking, but rapidly recovered from on resting, and then recurring at more or less regular intervals, if, after resting, the patient tried to walk again. This term, "intermittent claudication," should not be regarded as synonymous with the disease under consideration; it was only a symptom of the disease, and likewise occasionally occurred as an important symptom in other diseases, such as syphilitic arteritis, and in conditions resulting from traumatism of arteries. Moreover, it played no part in the symptomatology of very bad cases, *i. e.*, when the patients were absolutely unable to get about at all.

The term, "erythromelalgia," originally introduced by Weir Mitchell, had been employed for various conditions of vascular or nervous or trophoneurotic origin, including even some cases with cyanosis and swelling of extremities of only functional origin. Etymologically it was well adapted to be applied to the class of cases under consideration, meaning, as it did, *a painful condition of an extremity associated with redness (or cyanosis)*. But the cases under consideration were almost certainly not of the kind to which the term "erythromelalgia" had been originally applied.

In regard to diagnosis, conditions of one or both lower extremities resulting from arterial obstruction of other kinds (especially syphilitic cases) were those most likely to be confused. Cases of Raynaud's

syndrome and of sclerodactylia could seldom lead to such a mistake, though sclerodactylia of one or both feet did of course occasionally occur in adult Jewish males, of young or early middle age, and in some cases pulsation could not be felt in any of the pedal arteries.*

THE PEMPHIGOID ERUPTIONS.†

By J. M. H. MACLEOD, M.D.

The name "Pemphigoids," as far as I can ascertain, was introduced into dermatological literature by Besnier, and was made familiar in this country by Colcott Fox, who employed it as a synonym for Dermatitis herpetiformis in his exhaustive article in Allbutt and Rolleston's *System of Medicine*, 1911, lx, p. 455. The term was meant to signify that group of eruptions which Tilbury Fox included under the heading of "Hydroa" in the posthumous paper published by Colcott Fox in 1880 in the *American Archives of Dermatology*, and which Duhring re-christened "Dermatitis herpetiformis" in 1884, and Brocq named "Dermatite polymorphe douloureuse" in 1888.

The term "Pemphigoids" is a somewhat unfortunate one, as it simply signifies an eruption characterised at some phase or period in its course by bullæ and having a resemblance to chronic pemphigus, and consequently has been used in a loose sense by different writers to include a number of bullous eruptions, such as chronic pemphigus, acute pemphigus, Dermatitis herpetiformis, Pemphigus vegetans, Erythema bullosum, and Pemphigus neonatorum. Here, however, I propose to follow Besnier and Colcott Fox, and to restrict the use of the term to the Dermatitis herpetiformis group, excluding from it cases of Pemphigus neonatorum and Pemphigus acutus, which are septic infections due to the local inoculation of certain micro-

* See F. P. Weber, "Two Cases of Sclerodactylia," *Brit. Journ. Derm.*, 1915, vol. xxvii, p. 113.

† Being the opening paper of the discussion on the pemphigoid eruptions at the Royal Society of Medicine on May 21st, 1915.

organisms—most probably a streptococcus in the case of the former, and a diplococcus of the type described by Demme and Dähnhardt in the case of the latter.

Eruptions of the Dermatitis herpetiformis type have been described in the past under a great variety of names. Of these the most important are Pemphigus pruriginosus (Hebra), indicating especially the subjective symptoms associated with the disease; Pemphigus circinatus from a special phase of the eruption; Herpes pemphigoides from the herpetiform grouping of the lesions; and Herpes gestationis, Herpes gravidarum, and Hydroa gestationis, from its not infrequent occurrence in relation to pregnancy.

The history of the isolation of this group by Tilbury Fox, Colcott Fox, Duhring, Brocq, and others is so well known and has been described in such detail that it would be out of place to labour it here, and I will pass on to a consideration of the characteristic features of the eruptions which may be included under the heading of pemphigoids in its restricted sense, and to consider the relation of the group to other forms of bullous dermatitis.

Before discussing those matters I would remind you that in 1898 a debate was held on this subject at a special meeting of the Dermatological Society of London, and introduced by Dr. Allan Jamieson, of Edinburgh. This was the first of the series of debates on subjects of special dermatological interest which formed such an important part of the work accomplished by that Society. On reading the report of the introductory remarks and the subsequent discussion I have been greatly struck by the small advance which has been made in our knowledge of the pemphigoids since that date, for, unless in some minor details, what was said then practically represents the position to-day.

My experience of the pemphigoid group of eruptions is comparatively limited, as I have had in all only twenty-five cases, of which seventeen were in hospital and eight in private practice. To increase the field of my statistics, however, I have analysed all the cases of which there are records in the Skin Department of Charing Cross Hospital between 1895 and 1906, when Dr. Galloway was in charge of the Department, and have also made a brief synopsis of the cases which have been exhibited at the Dermatological Society of London, the Dermatological Society of Great Britain and Ireland, and this

Section of the Royal Society of Medicine, up to the present date. In this way I have got more or less complete notes of over 100 cases, but, unfortunately, in a considerable number of them the descriptions are so scrappy as to be of little value.

In collecting the hospital cases the rarity of the disease became evident, for out of about 12,000 cases of skin-disease in the Charing Cross Hospital records between 1895 and 1914 there were only twenty-three cases—that is, 0·19 per cent.—while out of 11,179 cases at the Victoria Hospital for Children during the last ten years, there were only three cases—that is, 0·02 per cent.—and it is doubtful whether two of these should not have been labelled chronic pemphigus.

Characteristics of the Pemphigoid Eruptions.

There are three cardinal features which may be said to weld the different eruptions included under this heading sufficiently closely together to suggest that they are variants of a common morbid process, namely:

(1) Multiformity in the eruptions.

(2) Herpetiform grouping.

(3) Intense subjective symptoms.

These cardinal features invariably occur at some period in the course of the affection and the absence of any one of them renders the diagnosis a matter of uncertainty.

Multiformity in the Eruptions.

The multiformity in the pemphigoid eruptions is due to a number of causes, of which the most obvious are: (*a*) Variations in the type of initial lesion; (*b*) the occurrence of several types of lesion synchronously; (*c*) variations in the type of lesion occurring in different attacks; (*d*) differences in the stage of evolution of individual lesions; (*e*) endless differences in distribution and grouping.

The types of initial lesions which may be met with are the familiar prurigo-like papules, papulo-vesicles, vesicles, bullæ, and erythematous or urticarial patches. These patches may be level with the surface or definitely raised, are sometimes covered with papules or vesicles grouped in a herpetiform fashion, or have a tendency to

involute in the centre and give rise to circinate figures with rings of vesicles at the border, which may coalesce to form a gyrate patterning.

The vesicles vary in size from a pin's head to a lentil, and may be acuminate, forming the apices of papules, or rounded, appearing on apparently healthy skin or developing on a red basis. Sooner or later, in every case, they are surrounded by an inflammatory halo from the growth of secondary micro-organisms in the contents. The vesicles may be isolated and irregularly distributed, but as a rule they are clustered in small groups of six or eight, or, more rarely, arranged in a circinate manner at the edge of an erythematous patch-like Herpes iris. They usually remain discrete, but occasionally may be closely aggregated to form multilocular bullæ. The bullæ vary in size from a lentil to a walnut, but are generally about the size of a small bean; they may develop on apparently healthy skin, or on an inflammatory or urticarial base, and may be regular in outline and unilocular or irregular and multilocular. As a rule they are tense, but occasionally they may be so flabby as to suggest Epidermolysis bullosa, or the fluid contents may be slight and the dissociation of the epidermis considerable, giving rise to a desquamating appearance recalling a mild Pemphigus foliaceus. In rare instances, possibly through the growth of secondary micro-organisms, vegetations may grow up from the basis of the bullæ, especially in those situated about the angles of the mouth, anus, vulva, or groin, and cases of this nature have been described under the heading of a mild type of Pemphigus vegetans from which recovery took place.

The contents of the vesicles and bullæ are at first clear and sterile, but soon become opaque and purulent from secondary infection with pyogenetic micro-organisms. The transition may be so rapid that the early clear phase may pass unobserved, and the lesion suggest a pustule d'emblée. It is those cases in which the vesicles become rapidly purulent which correspond most closely to the Impetigo herpetiformis of Hebra and Kaposi.

Sometimes one type of lesion predominates, sometimes another, but as a rule several phases are present simultaneously. In some cases one type of lesion may be preserved in successive attacks, in others the type most marked in one attack may be of minor importance or altogether absent in another. In a case recently under my observa-

tion the initial lesion was a bulla about the size of a filbert nut, situated on apparently healthy skin on the leg, which was followed some days later by groups of papulo-vesicles associated with marked itching.

The most common types of lesions are pustules and vesicles which occur at some period in the course of almost every case, while in the cases which furnish my statistics bullæ were present only in 37 per cent., erythematous patches in 26 per cent., and urticarial lesions in 7 per cent.

The multiformity of the clinical picture is liable to be increased by secondary complications resulting from rubbing, scratching, and the inoculation of pyogenetic micro-organisms. In this way lichenification, white cicatrices not unlike those met with in prurigo, eczematisation, or pustulation, may result. Pigmentation is also liable to follow the involution of the lesions, and to vary in degree according to the intensity of the itching; in a certain number of cases the pigmentation has been determined or increased by taking arsenic.

The affected skin, as a rule, shows neither factitious urticaria nor the vulnerability from excessive acantholysis met with in Epidermylosis bullosa, in which the skin slides away on pressure—the so-called sign of Nikolsky.

Herpetiform Grouping.

Grouping of the papules, vesicles, and bullæ, in clusters similar to that in Herpes zoster, is the second most constant feature, and was present in almost all the cases in adults. It was absent, however, in a considerable number of the cases described as Dermatitis herpetiformis in children. The groups of lesions may appear on apparently healthy skin or may be arranged on an erythematous base, which is most usually formed by the coalescence of inflammatory halos around individual papules or vesicles.

Subjective Symptoms.

The intensity of the subjective symptoms which may precede or accompany the eruption is the third essential feature of the group. These symptoms vary in type and intensity, and may consist of pricking, itching, burning, or actual neuralgic pain, and are generally

of a markedly paroxysmal character. Sometimes the itching is so intense that the pain and discomfort of digging out the papules with the finger-nails are preferable to it.

Less Constant Features.

General Health.

The state of the general health varies greatly in different cases. At first it is almost invariably well preserved, even when the skin is extensively involved, but in certain instances an attack has been ushered in by general symptoms, such as pains in the joints, malaise, headache, vomiting, etc., suggesting an invasion by some toxin. After the affection has been present for some time, general symptoms of a secondary character usually supervene, as the result of the gradual wear and tear from the irritating subjective symptoms, and these, when continued over a long period, are liable to have a depressing influence on the patient, both mental and physical, causing insomnia, establishing a neurotic habit, rendering him emotional and prostrate, and, in extreme cases, leading to insanity. General symptoms may also supervene as the result of septic absorption where the bullæ are extensive and have become purulent.

Mucous Membranes.

As a rule the mucous membranes are not implicated in typical cases of Dermatitis herpetiformis. There are exceptions, however, and out of the cases analysed the mucosa was involved in twenty-two cases. In ten of these the mouth was affected, especially the tongue and mucous membrane of the cheeks and lips, and in two the condition began in the mouth; in eleven cases the mucous membrane of the genitals was attacked, and in one case it commenced in the vulva; it has been known also to occur in the conjunctiva and to lead to essential shrinkage and blindness. In the mucous membranes it may take the form of erythematous macules, vesicles leading to superficial ulcerations, or even bullæ.

Condition of the Blood.

Considerable attention has been paid to the state of the blood in

this group of eruptions, chiefly owing to an increase in the coarse granular eosinophiles. Indeed, eosinophilia has been observed so frequently in the pemphigoids that its presence has been regarded by some as of diagnostic significance and suggestive of the action of some toxin on the bone-marrow. This increase of eosinophiles has been noted not only in the blood, but also in the contents of the bullæ and vesicles, and occasionally in the cellular infiltration in the corium. The eosinophilia has been found to vary from time to time in individual cases, being greatest when the eruption is at its height, tending to diminish when the nerve irritation decreases, and disappearing between attacks. In certain instances a high percentage of eosinophiles has been recorded; for example, Ravogli recorded 44·3 per cent. in the blood; Bushnell and Williams 69 per cent. in the blood; Jamieson 13 per cent. in the blood and 24 per cent. in the contents of a bulla; and Leredde and Perrin 30 to 95 per cent. in vesicles.

But the eosinophilia is by no means as constant as has been supposed. In a case under my care it was only 4 per cent. in the blood at the height of an attack when the itching was considerable. In a careful examination of the blood by Engman and Davis, out of twenty-seven cases of Dermatitis herpetiformis examined, only thirteen showed a definite increase of eosinophiles. These same observers noted that in eighteen out of twenty-six cases of Dermatitis herpetiformis there was an increase of the large mononuclear leucocytes which, instead of being about 6 per cent., were increased up to 20 per cent.

In one case a lymphocytosis was described in the cerebro-spinal fluid.

It has been asserted that the serum which exudes from the blood-vessels in the pemphigoids has a cytolytic action which assists in the formation of vesicles and bullæ by causing a disintegration of the inter-epithelial fibrils of the prickle cells, but this, if present, must be comparatively slight or the average size of the bullæ would be larger.

Condition of the Urine.

The only definite abnormality which has been recorded in the urine in a number of cases is the presence of indican; this was noted by Engman and Davis in fourteen out of twenty-six cases. It has usually been found to be coincident with outbreaks of the eruption, and its

presence is suggestive of an auto-intoxication from putrefactive changes in the alimentary tract.

Glycosuria and a diminution of nitrogen in the urine have also been described, but these may be coincidences.

Course.

The course of the affection is invariably chronic, and it may last for years or indefinitely. It may be continuous, but is far more usually subject to periods of more or less complete remission lasting for weeks or months.

Histo-pathology.

There has been nothing new or significant added to the descriptions of the histo-pathology given by Elliott, Leredde and Perrin, Gilchrist, and others. The changes in the corium would appear to be primary, those in the epidermis secondary. In the epidermis the vesicles may form, as in eczema, in the epidermis itself, but more often are situated immediately beneath it, the whole of the epidermis forming a roof. The vesicles contain coagulated albumen, fibrin, *débris* of leucocytes, eosinophiles, and, if suppuration has taken place, polynuclear lymphocytes. The prickle cells in the neighbourhood of the vesicles or bullæ are usually œdematous, and may present a central space in which the nucleus lies. The inter-epithelial lymphatic spaces are dilated, and eosinophiles occasionally occur between the cells.

It is in the papillary and sub-papillary layers of the corium that the initial changes take place. These consist of a marked dilatation of the capillaries, with œdema of the surrounding fibrous tissue, rarefaction of the fibrous bundles of the collagen, a dense infiltration of cells, an exudation of serum, and an extravasation of lymphocytes, eosinophiles, and of polynuclears, if suppuration has taken place. The lymphatic spaces in the papillary and sub-papillary layers are also dilated. The exudation of fluid may be so rapid as to mask the initial period of congestion owing to the formation of vesicles or bullæ. The condition has all the appearances of an acute inflammatory disturbance in the upper part of the corium, the result of some toxic irritant.

Etiology.

Age.—The affection may occur at any age; in the cases here analysed the extreme ages of onset were 11 weeks and 75 years. The most common age of incidence is between 20 and 40. It is a rare disease in children, as was shown by my statistics at the Victoria Hospital for Children, where it occurred in only 0·02 per cent. of the cases. Although typical cases have been recorded in childhood, it is open to discussion whether most of them would not have been better described as Pemphigus vulgaris, as in the majority there was a vesicular or bullous eruption, which was recurrent, but showed neither herpetiform grouping, multiformity of the initial lesions, nor intensity of subjective symptoms. It is also probable that one or two of the cases classified as congenital Dermatitis herpetiformis were in reality Epidermolysis bullosa, while the description in others suggests vesicating urticaria or bullous erythema.

Sex.—It would appear to be equally common in males and females, and in the collected cases there were fifty-seven males and fifty-one females. Meynet, who reported twenty-four cases in children, found that it was more common in males, in the proportion of seventeen to seven.

General health.—A low state of the general health does not appear to be a definite predisposing cause, though it has been suggested as such. In nearly all the cases the general health appears to have been up to the average, and only in two of them was there any mention of defective nutrition.

Determining Causes.

Pregnancy.—Pregnancy is the most definite determining cause, and the cases which have been recorded under the heading of Herpes gestationis, Herpes gravidarum, and Hydroa gestationis belong to this category. It may occur as early as the third month of pregnancy, or may not appear till after delivery. It may develop with the first pregnancy, and either recur with each subsequent one or miss one or more, or it may first occur with a later pregnancy. As a rule, it does not interfere with the pregnancy or the health of the child, but occasionally it has been known to lead to premature birth and to

cause death of the fœtus. The severe early pustular type of Herpes gestationis probably corresponds to the cases described as Impetigo herpetiformis by Kaposi.

Disordered menstruation.—Several cases are on record in which it has occurred in association with, and appeared to result from, derangements of menstruation, and both exacerbations and recurrences have been known to take place at the menstrual periods.

Nerve influences.—It has been said that this type of eruption occurs most frequently in neurotic individuals, but this assertion has not been borne out in my cases, where a neurosis, if present, appeared to be the result and not the cause of the disease. There are instances on record, however, in which an attack has been preceded or aggravated by psychical disturbances, such as emotion, anxiety, worry, fear, anger, or severe mental shock, and it has been known to be associated with hystero-epileptic fits.

Chills.—In four of the collected cases the onset of the attack was immediately preceded by a chill, which was blamed for causing the disease, but this may have been a coincidence.

Vaccination.—Several cases have been reported in children as occurring after vaccination, and it has been suggested that the vaccination caused the condition by liberating some toxin. It is possible that certain of those cases were really instances of Erythema bullosum.

Drugs.—In one or two instances an eruption of this type has followed the taking of some drug. For example, Mackenzie recorded a case in which an outbreak of Dermatitis herpetiformis occurred in a man while taking arsenic for loss of the hair.

Pathogenesis.

The exact nature and causation of Dermatitis herpetiformis still remains unknown. There is no evidence that it is an acute infective process due to primary microbic infection, and the vesicles and bullæ are at first sterile. It has been suggested that it is a paroxysmal neurosis, but this view has not met with much support.

The most prevalent hypothesis is that it is an intoxication and caused by the circulation in the blood of some endogenous toxin. It has been suggested that this toxæmia is the result of renal inadequacy,

and in two cases in which post-mortems were obtained a renal sclerosis was described, but this may have been a coincidence. Examinations of the urine, moreover, have not supported this view, as in the cases in which it has been carefully estimated, except in the few instances in which indican was present, it neither contained abnormal constituents nor was deficient in quantity. In favour of the toxic theory is the occasional occurrence of general symptoms with the outbreak of the disease or with a recrudescence, and its ætiological relationship with pregnancy and disordered menstruation, which may be explained on the ground of a toxæmia rather than a reflex neurosis.

The exact manner of action of the hypothetical toxin is uncertain. It may circulate in the cutaneous blood-vessels, and so produce the lesions in the skin directly, or it may act primarily on the nervous system and indirectly on the skin.

Various arguments have been advanced in favour of indirect action through the nervous system. For example, it has been pointed out that vesicles and bullæ may occur in connection with pathological changes in the peripheral and central nervous system, both functional and organic, and that the eruptions might readily be explained as the result of the action of a toxin on the root ganglia. In support of this view also, attention has been drawn to the resemblance between certain cases of Dermatitis herpetiformis and Herpes zoster, and the similarity in the initial lesions, their grouping, and the character of the subjective symptoms accompanying them. In this connection a suggestive case recently came under my care in which Dermatitis herpetiformis had been present in an adult male for several years, and while the eruption was still out an acute attack of Herpes zoster affecting the seventh and eigthth dorsal root areas was superimposed, apparently as the result of a chill. Galloway also recorded a case of Herpes zoster following Dermatitis herpetiformis. In Herpes zoster, however, except in cases where it is symptomatic of some central nervous disease, there is usually a definite inflammatory disturbance with its main seat of origin in the posterior root ganglia, in which changes of an inflammatory type with hæmorrhages can be detected, usually associated with degenerative changes in the posterior columns of the cord and the peripheral afferent nerves. In Dermatitis herpetiformis, however, in the cases which have been examined post mortem no definite organic changes have been detected

so far, either in the peripheral nerves, root ganglia, or spinal cord. But in answer to this it may be argued that the toxin may be capable of sufficiently irritating the root ganglia as to cause symptoms in the skin without giving rise to definite organic changes.

In short, it seems most probable that the affection is due to some autogenous toxin, not necessarily of a specific nature, which may be called forth by a variety of influences, and most probably acts indirectly on the skin through the nervous system.

Diagnosis.

The most important point in the diagnosis of Dermatitis herpetiformis is the question of its differentiation from chronic pemphigus and the decision as to whether they are distinct entities and not simply variants of a common morbid process.

Before discussing this there are one or two minor questions bearing on the diagnosis which require consideration. Of these, the first is the relation of the pemphigoids to the Impetigo herpetiformis of Hebra and Kaposi. I have never had the opportunity of seeing a case of Impetigo herpetiformis, but the description of the majority of the cases seems to suggest a pustular Herpes gestationis, and as all stages of transition between typical grouped Dermatitis herepetiformis and pustular circinate Impetigo herpetiformis have been described, there does not seem to be any cogent reason for separating them.

Another point of minor interest is that several writers included under the heading of Dermatitis herpetiformis the Hydroa æstivale of Crocker, or Hydroa vacciniforme of Bazin. This is difficult to explain, as the differentiation of that affection from Dermatitis heptiformis presents no difficulty, for Hydroa æstivale tends to stop at puberty, chiefly affects the exposed parts, is largely due to local irritation from the actinic rays of the sun, occurs almost exclusively in the male sex, and the lesions are followed by scarring. Mild cases of Dermatitis herpetiformis are also occasionally mistaken for eczema, and instances are sometimes met with in which a firm diagnosis between the two presents considerable difficulty. In Dermatitis herpetiformis, however, there is not the same tendency to weeping as in eczema.

With regard to the differentiation of Dermatitis herpetiformis from Pemphigus chronicus there is much room for argument. It seems to me that in the present state of our knowledge it is advisable to consider them as distinct, though it must be conceded that cases do arise which are exceedingly difficult to place, and may almost be regarded as transitional stages between the two. The differences between the two types of cases have been dealt with in detail by Colcott Fox and other writers, and I will refer now only to the most salient of them.

In chronic pemphigus the eruption is uniform and the primary lesion a bleb, usually arising on apparently healthy skin, though occasionally an inflammatory halo may appear so quickly as to be almost synchronous with the exudation of the fluid; in Dermatitis herpetiformis the eruption is essentially multiform.

In Dermatitis herpetiformis the bullæ are rarely larger than a filbert nut; in chronic pemphigus they may be as large as the palm of the hand.

In Dermatitis herpetiformis the lesions tend to be grouped in a herpetiform manner or arranged in rings, or gyrate patterns; in chronic pemphigus they are distributed irregularly.

In Dermatitis herpetiformis the mucous membranes are only involved in about 20 per cent. of the cases; in chronic pemphigus they are more commonly attacked.

In Dermatitis herpetiformis intense subjective symptoms usually accompany the eruption; in chronic pemphigus there are, as a rule, no subjective symptoms either preceding or accompanying the skin lesions, unless when the blisters get broken and leave a raw, painful surface.

In Dermatitis herpetiformis post-mortem examinations have so far revealed no definite and constant changes either in the internal organs or the nervous system; in chronic pemphigus various pathological changes have been described, such as degeneration of the peripheral nerves and spinal cord, and fatty degeneration of the liver and heart, which may be secondary. Eppinger recorded six cases of chronic pemphigus in which there were degenerative changes in the peripheral nerves and hæmorrhages in the central nervous system; Mott has described degeneration in the peripheral nerves; and Jamieson and Welsh in a case of Pemphigus vegetans found degenerative

changes in the cells of the spinal cord in which they became vacuolated with a diminution of chromophile substance suggesting a toxic degeneration.

With regard to Pemphigus vegetans, it would appear that certain of the mild cases reported under that heading were vegetating types of Dermatitis herpetiformis, while the malignant cases belonged to a different category—their cause being still unknown.

Treatment.

It cannot be said that any great advance has been made in the treatment of the pemphigoid eruptions since the debate in 1898, nor has experience since then provided us with any specific remedy. At the present time the treatment cannot be claimed to be more than symptomatic, aiming at the relief of the irritation, paroxysmal pain, general depression, and insomnia.

In the past arsenic has been largely employed for this affection, and was once credited with having a definite curative effect upon it, but further experience of its use has proved that, though occasionally it may have a controlling influence, it cannot be said to be curative. In most cases it is necessary that the limit of toleration be reached before any appreciable benefit is derived from the drug, and even then it may be ineffective, as in a case under my care, where symptoms of chronic arsenical poisoning were beginning to show themselves, in the form of pigmentation and diarrhœa, while new lesions kept appearing on the skin. It has been found also that in cases which respond to arsenic pushed to the limit of toleration, any reduction in the dose may cause a return of the eruption. In cases where it is beneficial the arsenic would seem to act chiefly through its tonic effect on the nervous system, and it would appear to be specially useful in children. It has been employed principally in the form of Fowler's solution, or as the liq. arsenici hydrochloricus. The aryl-arsenates—namely, atoxyl and arsacetin—have also been given a trial, but with doubtful benefit, and the treatment is not to be recommended on account of the pain of the injections.

Salvarsan has been used and improvement recorded, though not cure (Russell Wilkinson).

Improvement has also been reported from the employment of thyroid, but the results from it have been uncertain.

Other drugs which have been used occasionally with benefit in the relief of the irritation in extreme cases are antipyrin, phenacetin, quinine, salicin, opium, and hypodermic injections of morphia.

Relief has also been claimed from lumbar puncture, but I have no personal experience of it in this connection.

Where the eruption is profuse and the itching intolerable benefit may sometimes be derived from a vegetarian diet, which at the same time should be low, almost reaching the point of starvation.

Locally the treatment is also purely symptomatic and consists of antipruritic or antiseptic local applications. I have got most benefit from soothing remedies, such as a cream containing small quantities of menthol, glycerine of lead, or from a zinc paste with or without the addition of tar. I have not found the relief from strong sulphur ointment which Duhring and others have claimed.

Benefit has been reported in extensive cases from light baths and high frequency.

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Dermatitis Herpetiformis.

Name of exhibitor	Date and reference in *Brit. Journ. Derm.*	Sex	Age at onset	Type of eruption	Blood changes	Course	Remarks
Sangster	1885	—	—	Vesicular, clustered, and urticarial lesions; much pruritus	—	—	Recurred every few weeks
Mackenzie, S.	1886	—	—	Vesicles in herpetiform groups, erythematous patches; intense irritation	—	—	Controlled by arsenic; opium no effect
Waren Tay	1890	M.	19	Papulo-vesicular, grouped; moderate itching	—	—	Improved by application of sulphur
Payne	1893	M.	55	No details	—	—	Three previous attacks
Mackenzie, S.	1893, v, 5	M.	37	Multiform papules, vesicles, bullæ, erythematous patches; groups of vesicles on red bases; urticarial lesions; itching not marked	—	—	Came on first after sleeping in damp bed
,,	1893, v, 6	M.	40	Vesicles, bullæ, papules; intense itching; mucous membranes not attacked	—	—	Followed a chill from being overheated; repeated attacks; improved under quinine
,,	1893, v, 7	F.	44	Papules, vesicles, urticaria (spontaneous and factitious); burning, itching	—	—	Patient of a nervous temperament; improvement from antipyrin
,,	1893, v, 10	M.	68	Erythematous patches surmounted by groups of vesicles on face, neck, and trunk	—	—	Repeated attacks
	1893, v, 10	M.	40	Red macules and vesicles widely distributed; much irritation	—	—	—
	1893, v, 12	M.	16	First attack chiefly bullæ, second attack red macules, vesicles; much itching	—	—	Complete remissions between attacks

,,	1893, v, 13	M.	44	Eruption chiefly bullous; severe itching and tingling	—	—	—
West, S.	1894, vi, 183	M.	22	Vesicles asymmetrically distributed; great irritation	—	—	Duration two years, with remissions of about three weeks
Morris, M.	1894, vi, 239	M.	28	Bullæ on extensor aspects of limbs, erythematous patches and vesicles	—	—	—
Galloway, J.	1895, vii, 191	F.	69	Circinate erythematous patches with central bullæ; irritation slight	—	—	Duration four years
Cavafy	1895, vii, 212	M.	36	Papules, patches, vesicles, excoriations; much irritation	—	—	Subject to spontaneous remissions
Pringle, J. J.	1895, vii, 357	M.	6	Bullæ, vesicles, papules, urticarial lesions	—	—	—
Mackenzie, S.	1896, viii, 91	M.	27	Papules, red margined vesicles, bullæ; followed by pigmentation	—	—	Developed after taking arsenic to promote hair growth
Duckworth, D.	1896, viii, 218	F.	60	Bullæ, erythema, vesicles; intense itching and pain	—	—	—
Morris, M.	1896, viii, 278	—	11 weeks	Widespread bullous eruption; two small vesicles on tongue	—	—	—
Fox, Colcott	1896, viii, 478	F.	—	Gyrate vesicular eruption; lesions spread excentrically like herpes iris or impetigo herpetiformis	—	—	—
Pringle, J. J.	1896, viii, 483	M.	75	Erythema, urticaria, vesicles, bullæ; intense irritation	Eosinophile cells in blood	—	Recurrences
Liddell, J.	1896, viii, 385	F.	52	Bullæ, gyrate figures, vesicles, concentric rings; burning and itching	—	—	Recurrent attacks; original attack followed chill and pains in the knees
Fox, Colcott	1896, viii, 179	M.	42	Inflammatory patches, several attacks of vesicles; marked itching; herpetiform grouping	—	—	—
Abraham, P. S.	1897, ix, 202	F.	19	Erythematous patches and bullæ; intense pruritus	—	—	Developed after a feverish chill
,,	1897, ix, 285	M.	38	Vesicles	—	—	Recurrent attacks
Manson, P.	1897, ix, 97	M.	29	Widely distributed vesicular eruption; extreme irritation	—	—	Recurrent attacks, controlled by arsenic

Dermatitis Herpetiformis—(continued).

Name of exhibitor	Date and reference in *Brit. Journ. Derm.*	Sex	Age at onset	Type of eruption	Blood changes	Course	Remarks
Morris and Whitfield	1897, ix. 213	F.	40	Successive vesicular eruptions; intense burning; mucous membrane of mouth affected in each attack	4·9 per cent. eosinophiles in blood; 12·0 per cent. when attack at height	—	—
Hope, Grant, for Abraham, P. S.	1898, x, 17	F.	—	Papulo-vesicular eruption; extreme irritation; few blisters on red base	—	—	—
Abraham, P. S.	1899, xi, 123	M.	—	Erythematous patches, vesicles, papules; intense pruritus; herpetiform arrangement	—	—	—
Pringle, J. J.	1900, xii, 19	M.	57	Gyrate lesions and circinate; scales present at the margins; vesicles; moderate itching	—	—	—
,,	1900, xii, 20	F.	72	Scattered bullæ, acuminate pustules; no marked irritation	—	—	—
Galloway, J.	1900, xii, 203	M.	4	Papules, vesicles	—	—	Three remissions
Pernet, G., for Radcliffe Crocker	1901, xiii, 102	M.	47	Raised patches covered with vesicles; much irritation	—	—	Several previous attacks
Morris, M.	1902, xiv, 267	M.	55	Red patches, bullæ, vesicles; mucous membrane of mouth involved; burning and itching	—	—	Attributed to worry consequent upon unemployment
Pringle, J. J.	1902, xiv, 304	F.	2	Herpetiform grouping of vesicular lesions, sometimes circinate arrangement; no itching	—	—	Two remissions
Little, G.	1902, xiv, 425	F.	10	Vesicles, bullæ, papules; irritation slight	Eosinophilia, 4·7 per cent.	—	Recurrences
Abraham, P. S.	1902, xiv, 472	F.	—	Erythematous areas, bullæ	—	—	Doubtful impetigo herpetiformis; much worry; first appeared after death of husband
Galloway, J.	1903, xv, 24	M.	28	Papules, vesicles, herpetiform grouping followed by pigmentation	—	—	Associated with herpes zoster of tenth and eleventh dorsal areas

Pringle, J. J.	1903, xv, 211	F.	47	Papules, ringed pigmentation; intense irritation	—	—	Highly neurotic
Little, G.	1903, xv, 409	F.	3	Vesicles on red base, papules	—	—	—
,,	1904, xvi, 76	M.	14	Papules, vesicles, herpetiform grouping, pigmented patches; much itching	—	—	Poorly nourished
Pringle, J. J.	1905, xvii, 306	M.	27	Vesicles on erythematous bases, becoming pustules, herpetiform grouping; a few lesions on buccal and palatal mucosa, marked conjunctivitis; severe pruritus	—	—	Repeated attacks; subject to hystero-epileptic attacks; arsenic produced exacerbations of all manifestations; intemperate
Little, G.	1906, xviii, 436	M.	8	Small grouped vesicles, large isolated bullæ; vesicles on buccal mucous membrane	15 to 16·5 per cent. eosinophiles	—	Two attacks; first followed accidental sudden immersion in water
Dawson, G. W.	1906, xviii, 151	M.	17	Recurrent vesicular eruption; intense pruritus	—	—	—
Hartigan, T. J. P.	1906, xviii, 184	M.	6	Figured erythematous eruption with bullæ distinctly grouped; no marked itching	—	—	Urine contained a substance which reduced Fehling's solution; several attacks
Little, G.	1906, xviii, 259	M.	12 (at time of exhibition)	Grouped vesicular eruption; slight itching	1·5 per cent. eosinophilia	—	Recurrent attacks, usually last several months
,,	1906, xviii, 435	M.	23	Small grouped vesicles; intensely itchy	14·0 per cent. eosinophilia	—	Repeated attacks; nervous temperament; improved by arsenic
Galloway, J.	1908, xx, 261	M.	23	Erythematous patches; irregular corymbose grouping; vesicle pustules	5·2 per cent. eosinophilia	—	—
Pringle, J. J.	1907, xix, 437	M.	5	Large blebs, small vesicles, solid papules, erythema; no itching	—	—	—
Payne	1907, xix, 437	M.	55	—	—	—	Three previous attacks
Dawson, G. W.	1909, xxi, 385	M.	58	Bullæ, vesicles, grouped; intense itching	—	—	Improvement under arsenic; disappearance of eruption under injections of diphtheria antitoxin

Dermatitis Herpetiformis—(continued).

Name of exhibitor	Date and reference in *Brit. Journ. Derm.*	Sex	Age at onset	Type of eruption	Blood changes	Course	Remarks
Gardiner, F.	1909, xxi, 237	F.	8	Erythematous, bullous, vesicular; tendency to grouping	Five examinations: Eosinophilia, 5·0 per cent. 12·8 ,, 10·0 ,, 6·5 ,, 2·5 ,,	—	Had convulsive fits in infancy and definite signs of pulmonary tuberculosis
,,	1909, xxi, 237	F.	3	Bullous eruption; began on genitals and inner aspect of thighs	Three examinations: Eosinophilia, 4·0 per cent. 8·0 ,, 9·0 ,,	—	Two attacks; defective nutrition
,,	1909, xxi, 243	F.	7	Began with bullæ on thigh, grouped vesicles, followed by pigmentation	Eosinophilia, 11·5 per cent. 12·5 ,, 7·5 ,,	—	Course three years; constant recurrences; general health good
,,	1909, xxi, 245	F.	4	Bullæ on chin and vulvæ, later universal, followed by pigmentation	Eosinophilia. 11·0 per cent. 13·6 ,, 9·2 ,, 9·7 ,,	Five years	Cleared with arsenic, but recurred
MacLeod, J. M. H.	1909, xxi, 295	M.	5	Circinate groups of papulo-vesicles; marked itching	—	—	Recurrences; came on after accidentally eating 18 gr. of grey powder
Abraham, P. S.	1910, xxii, 15	F.	10	Bullæ on raised bases; pain, pruritus	—	Five months	General health good; recurrences
McDonagh, J. E. R.	1910, xxii, 168	M.	17	Began as bullæ; mucous membranes of mouth, uvula, and palate affected; marked factitious urticaria	—	—	—
Morris, M.	1912, xxiv, 148	F.	40	Type of attack varies; erythematous patches, vesicles, bullæ	—	—	Controlled by arsenic

Bunch, J. L.	1912, xxiv, 311	M.	24	Vesicles, bullæ; intense itching; followed by pigmentation		—	Attacks attributed to nervous strain; recurrent attacks; under two doses of veronal vesicles changed to bullæ and reverted subsequently
Gray, A. M. H.	1912, xxiv, 420	F.	27	Grouped vesicles, surrounded by erythematous areas	—	—	—
Savatard	1913, xxv, 46	F.	57	Groups of pustules arranged in a herpetiform manner; each outbreak heralded by rise of temperature and rigor	—	—	Doubtful impetigo herpetiformis
King Smith	1913, xxv, 268	M.	27	Bullæ; began with blisters in the mouth	—	—	—
White, R. P.	1913, xxv, 45	M.	43	Bullæ, erythematous lesions, dark brown stains; much irritation	—	—	Periodic attacks
Little, G.	1914, xxvi, 165	M.	—	At first simulated erythema iris, later herpetiform grouped lesions	—	—	—
Semon, H. C.	1914, xxvi, 166	F.	41	Vesicles, bullæ, erythematous bases	Eosinophilia, 27·0 per cent.	—	General health comparatively good; highly emotional; secret alcoholic
Wilkinson, Russell	—	M.	42	Bullæ, herpetiform groups, erythematous patches, hæmorrhagic vesicles	Eosinophiles, 22·0 per cent.; lymphocytes, 12·0 per cent.	—	Treated by salvarsan; improvement reported

Herpes Gestationis.

Name of exhibitor	Date and reference in *Brit. Journ. Derm.*	Age at exhibition	Type of eruption	Remarks
Mackenzie, S.	1893, v, 4	38	Papules, vesicles, bullæ, erythematous patches; intense pruritus	Began with itching before pregnancy; blebs appeared ten days after delivery; eruption persisted with remissions afterwards
,,	1893, v, 8	32	Vesicles, bullæ, papules	Occurred with first and third pregnancies, appearing about fourth month and continuing a few days after delivery
,,	1893, v, 9	35	Bullæ; associated with burning pains, swelling of the joints	Occurred in seventh pregnancy
,,	1893, v, 10	35	Erythema, vesicles, bullæ; most marked in the extremities	Successive attacks; at their height prior to onset of each menstruation after sixth pregnancy
,,	1893, v, 11	28	Papulo vesicles, pustules; much irritation	Doubtful, complicated by syphilis
Radcliffe Crocker	1896, viii, 23	—	Erythematous disks, papules, vesicles; previous attacks with bullæ	Six weeks pregnant; one of previous attacks just after confinement
,,	1898, x, 90	—	Circinate and grouped erythema and vesicles; severe itching	Four attacks: (1) three days after delivery; (2) in sixth month; (3) in third month; (4) in seventh month
Abraham, P. S.	1899, xi, 124	—	Erythema, papules, bullæ; intense pruritus	Appeared a few days after delivery of first child and recurred after birth of stillborn second child
Morris, M.	1901, xiii, 167	31	Groups of vesicles on erythematous bases; herpetiform arrangement; large bullæ	Appeared two or three days after delivery in the last two out of eight confinements
Jones, B.	1901, xiii, 308	29	Papules, urticarial lesions, vesicles, bullæ; burning and itching	Eruption began a week before confinement; grandmother had similar eruption in each of five pregnancies
Little, G.	1901, xiii, 419	29	Vesicles, pigmented lesions; intense itching	Appeared at third confinement; ushered in by rheumatic pains; attributed to worry
Evans, W.	1904, xvi, 339	32	Vesicles, circular patches of erythema; marked irritation	Appeared at sixth and ninth pregnancies out of nine, about four and a half months; healthy child at full term; general health good; very nervous
Whitfield	1904, xvi, 103	19	Gyrate erythematous patches, herpetiform lesions; severe pruritus	Began in first month of pregnancy

Impetigo Herpetiformis.

Name of exhibitor	Date and reference in *Brit. Journ. Derm.*	Sex	Age	Type of eruption	Blood changes	Remarks
Graham Chambers	1911, xxiii, 65	M.	36	Blisters arranged in circinate manner on reddish base	2·0 per cent. eosinophilia	Repeated attacks; patient feels ill during attacks; between attacks, health good

Victoria Hospital for Children, between 1903 and 1914. Total Number of Cases of all Skin Diseases, 11,179.

Dermatitis Herpetiformis.

	Date	Sex	Age	Type of eruption	Remarks
MacLeod, J. M. H.	1911	F.	8	Bullæ and vesicles, red patches; no definite grouping; no subjective symptoms	Recurrent attacks
,,	1911	M.	2	Vesicles and bullæ; no definite grouping or subjective symptoms	—
,,	1911	F.	8 months	Vesicles, bullæ; vesicles tend to coalesce; no herpetiform arrangement; recurrent attacks	—

CASES AT CHARING CROSS HOSPITAL, BETWEEN 1895 AND 1914. TOTAL NUMBER OF CASES OF ALL SKIN DISEASES, 12,000.

Dermatitis Herpetiformis.

	Date	Sex	Age	Type of eruption	Remarks
Galloway, J.	1895	F.	77	Vesicles, bullæ, circinate erythema; subjective symptoms mild	—
,,	1897	F.	15	Vesicles, urticarial lesions	—
,,	1897	M.	26	Papules, vesicles, pustules; grouped like corymbose syphilide	—
,,	1898	M.	29	Papules, vesicles; circinate arrangement	—
,,	1900	M.	3	Bullæ, vesicles; corymbose arrangement; intense pruritus	Began with bullæ in the legs, vesicular eruption followed; recurrences; not controlled by arsenic
,,	1900	M.	60	Papulo-vesicular type; severe pruritus	—
MacLeod, J. M. H.	1906	F.	40	Papules, vesicles, bullæ; herpetiform arrangement; severe itching	Began as a single bulla, the size of a walnut, on the leg, followed by herpetiform groups of papulo-vesicles; frequent recurrences and more or less complete remissions; not controlled by arsenic
,,	1906	M.	32	Vesicles, bullæ, erythematous patches; circinate arrangement; intense itching	Repeated attacks
,,	1907	F.	38	Papules, vesicles, occasional bullæ; intense irritation	General health not impaired
,,	1907	F.	75	Papules, vesicles; herpetiform grouping; severe itching	Chiefly present on the limbs
,,	1907	M.	66	Papules, vesicles; herpetiform grouping	Eruption preceded and accompanied by itching or stinging; subjective symptoms improved by large doses of salicin
,,	1908	F.	76	Papulo-vesicles, clustered; intense itching	Lesions most profuse on arms
,,	1909	M.	5	Papules, vesicles; arranged in circinate and herpetiform fashion; intense itching, almost pain	—
,,	1909	F.	28	Papules, vesicles; herpetiform grouping, widely distributed; intense itching	Associated with nursing; has had four children; appeared after each one was born (herpes gestationis)
,,	1909	F.	54	Vesicles, bullæ; herpetiform arrangement; itching	Subjective symptoms diminished by salicin

,,	1911	M.	60	Papulo-vesicular type	—
,,	1913	M.	67	Papules, vesicles, clustered; intense itching	—
,,	1914	M.	68	Papules, vesicles; intense itching	—
,,	1914	F.	57	Papules, vesicles; intense itching	—
,,	1914	F.	34	Papules, vesicles; intense itching	—

PRIVATE CASES OF DERMATITIS HERPETIFORMIS.

	Sex	Age	Type of eruption	Remarks
MacLeod, J. M. H.	M.	70	Papules, vesicles; herpetiform grouping; intense itching, paroxysmal	Patient highly neurotic
,,	F.	18	Groups of papulo-vesicles; very itchy	Nervous; no general disturbance
,,	F.	74	Herpetiform groups of papulo-vesicles; intense irritation	Began about the time when a pessary was applied for prolapsus uteri; no disturbance of general health
,,	M.	9	Circinate patches with vesicles at borders; mild irritation, wide distribution; no lesions on the mucosa	General health good
,,	F.	52	Groups of papulo-vesicles; much itching	Began at menopause
,,	M.	60	Groups of papulo-vesicles; extreme itching; originally diagnosed as eczema	Attacks alternate with neuritis
,,	M.	50	Groups of papulo-vesicles, erythema; much itching, paroxysmal in character	Followed by an attack of herpes zoster
,,	F.	50	Papules, vesicles; herpetiform grouping; intense itching	General health good; has had repeated attacks

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Discussion.

The President said members would agree with him in thanking Dr. MacLeod for a most admirable paper, which was thoughtful, exhaustive, and very suggestive. He was prepared for its suggestiveness, and therefore he had arranged that the Section should have an adjourned debate on the subject on June 3rd, at 5 o'clock. He would call upon speakers in the order in which their names had been sent in.

(The discussion will be reported in the July number of the Journal.)

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held Thursday, May 20th, 1915, Dr. J. J. Pringle, President of the Section, in the chair.

The President said he proposed to make a departure from the circular letter issued—namely, to have the pemphigoid cases brought into the room merely for demonstration, not for debate. And he would give precedence to Dr. Douglas Heath's very interesting case, as the patient had come from Birmingham.

Dr. Douglas Heath showed a case of *Hallopeau's Pyodermite végétante*. History: The patient, a well-developed and healthy-looking lad, aged 12 years, was taken ill with sore throat and ulcerated mouth early in January of the present year. His tongue and lips became badly affected, and the taking of food was painful. During the first week of February a "pimple" was noticed on the front of the chest, which soon broke and discharged pus and then rapidly grew in size. It became raised markedly above the skin level, and a crust formed over it. This crust seemed to have separated after a time, leaving a brown stain. Several similar but smaller pustules appeared on the front and back of the chest during February, which dried up after the formation of small scabs. On March 5th, 1915, he was admitted into the General Hospital, Birmingham, under the care of Dr. Heath's colleague, Dr. Sidney Short, who had very kindly permitted the exhibitor to see him frequently and also to show him before the Royal Society of Medicine. At this time both the upper and lower lips were covered by raised white epithelium, the result of confluent bullæ or vesicles, the margins of which were practically coterminous with the junctions of the skin and mucous membrane of the lips. The throat was infected and sore, but no bullæ could be seen on it or on the inside of the cheeks. The tongue was slightly eroded on its lateral margins. No vesicles were present in the nares or on the conjunctivæ. On the front of the chest was a pigmented patch of skin as large as a half-crown marking the situation of a large raised and scabbed area, which had disappeared without leaving any

scar. The umbilicus and the skin around it were completely covered by a sharply raised condylomatous mass of bluish-red colour, covering an area as large as a five-shilling piece. Around this central disc-like elevation were smaller "vegetating" tumours, some of them being covered by scabs or epithelial *débris*. The nearest and largest of these were coalescing with the central tumour mass. Outside these again was a wide ring of small vesicles and pustules, the outermost, spreading on to the healthy skin of the abdomen, being about the size of a large pin's head. Recent vesicles were nearly always clear, but they invariably became pustular in a short time. As they increased in size they grew into very small flat bullæ and a faint pink areola developed around them. All stages of transition from the early vesicle to the vegetation were visible, and the raising of the floor of the vesicle into a little tumour could be seen to be an extremely early phase in the course of the development of the disease and to be too frequent to be only an accidental feature. On the back of the patient several similar areas of condylomatosis surrounded by rings of vesicles and pustules could be seen all running through similar stages. The legs, thighs, groins, axillæ and genital regions were unaffected.

The patient complained very little of itching or burning sensations in the skin, but the removal of the dressing caused, as might be expected, some pain. An examination of the blood by Dr. Agar gave a leucocytosis of 11,000, eosinophiles 4 per cent. The urine was faintly acid in reaction and gave a very faint haze of albumen; the specific gravity was 1020; the quantity of urine in twenty-four hours, 48 oz.; urea, 1·2 per cent. The bowels were regular, but there was a slight degree of constipation. A Wassermann test gave a negative result, and no growth took place in cultures from the blood.

Course of the disease: From March 5th to May 20th the patient had remained in the hospital, and in spite of fairly strong antiseptic treatment the areas of condylomatosis around the umbilicus and on the back had greatly enlarged. Fresh crops of vesicles and pustules had been constantly appearing at the spreading margins of the eruption, and these had enlarged, ruptured, and then developed vegetations in their floors, often under a small scab, but quite as often without. A similar rapidly-spreading pustulo-vesicular rash had recently covered the whole of the left thumb, having started as a

pustule under the nail-plate three weeks ago. On the ring-finger of the left hand, half an inch above the nail-fold, a few vesicles had also appeared, and on the middle finger of the right hand a pustule developed (May 15th) in the centre of the nail-fold. On the back of the right arm a raised dry and scabbed area, 1 in. long and ½ in. wide, seemed to be shrinking, and no vesicles could be seen around it. The front of the abdomen was on May 18th for the most part covered by one large and continuous area of condylomatosis, which only showed signs of moisture at its margins. Similar large "vegetating" areas extend over nearly the whole of the back. These large condylomatous masses were quite firm and dry, and show no excoriated areas or purulent points, even where they were exposed to friction, as on the back. In spite of the very extensive skin-disease the patient's temperature has remained normal, and he invariably said that he felt perfectly well.

An examination of the blood on May 15th gave a leucocytosis of 23,400. The eosinophiles were present to the extent of 27·4 per cent. of the white cells; neutrophile polymorphonuclears, 44·2 per cent.; mononuclears, 28·4 per cent. (Dr. Logie). Fluid from small pustules contained large numbers of eosinophile and polymorphonuclear leucocytes. Cultures from pustules gave *Staphylococcus aureus* and a diphtheroid bacillus of the Hoffmann type. A very early vesicle of the size of a small pin's head, with clear contents, was excised from the back and examined microscopically. From the section it could be seen that the vesicle had started in the outer third of the prickle cell layer, unaffected cells of which layer formed the floor of the vesicle cavity. The roof of the vesicle seemed to consist chiefly of the horny layer, which in this region of the back was naturally very thin. The cavity of the vesicle contained numerous polymorphonuclear cells. The lower two-thirds of the prickle cell layer underlying the vesicle stained normally and showed no œdema of the cells or intra-cellular œdema. The corium, however, directly underneath, was very œdematous, and the collagen fibres were widely separated. A moderate exudation of wandering cells could be seen in the region of the papillary body.

A portion of one of the large vegetating masses from the back was kindly examined by the Hospital Pathologist, Dr. Logie. He reports: "The specimen shows a proliferation of the epidermis over

a granulomatous condition of the corium. Mitotic figures occur in the deep layer of the epidermis. The prickle cells are somewhat separated and the 'prickles' well seen, and there is a good deal of downgrowth of epithelium. Both in the epidermis and in the corium small abscesses occur with numerous polymorphonuclear cells and detached tissue elements (squamous cells, etc.). The corium shows patches of infiltration with plasma cells, lymphocytes and proliferated fibroblasts, and endothelial cells, and the lymphatics are dilated."

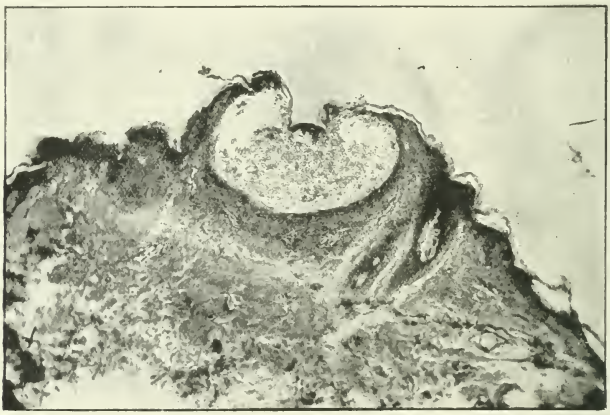

FIG. 1.—Hallopeau's Pyodermite végétante. Section of early clear vesicle (× 75) from the back, showing the formation of the vesicle in the outer third of the prickle cell layer. The cavity of the vesicle is filled with polymorphonuclear and a few detached epithelial cells. The corium shows marked congestion of the papillary vessels immediately underneath the vesicle, and (under a higher power) polymorphs can be seen in abundance below and between the epithelial cells of the floor of the vesicle.

Dr. Logie was struck by the fact that the histological appearances of the section closely resembled those seen in blastomycosis, but he was unable to find any yeast cells.

The case above described seemed to belong to the class of Pemphigus vegetans or Dermatitis vegetans, although it more closely resembled in its early stages Dermatitis herpetiformis than pemphigus. Similar cases had been described by Hallopeau, Hartzell, Jamieson, Fordyce, W. A. Pusey, and others. Hallopeau called the affection Pyodermite végétante, and considers it was really a form of Pemphigus vegetans.

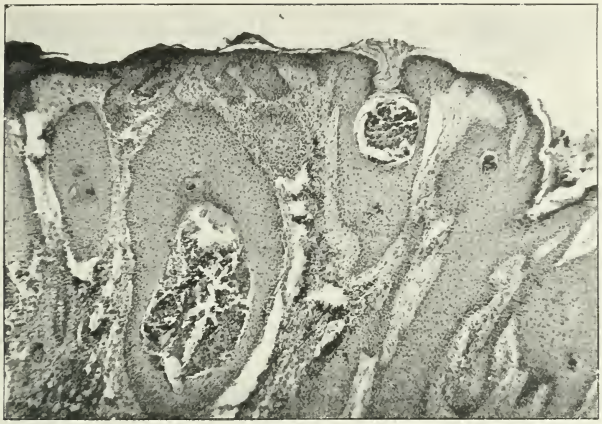

Fig. 2.—Hallopeau's Pyodermite végétante. Section from a horny vegetation two or three weeks old. The section shows a marked irregular acanthosis, and numerous "dry abscesses" in the prickle cell layer.

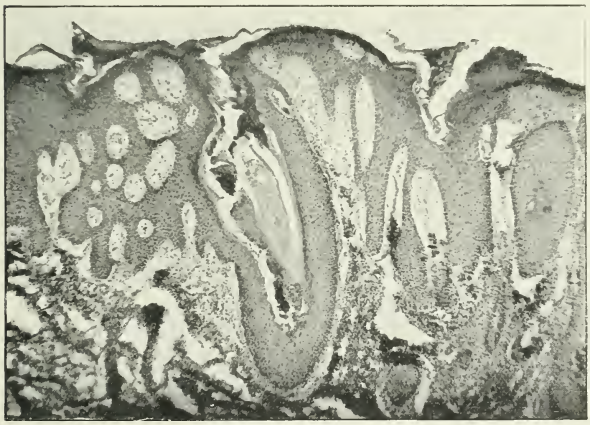

Fig. 3.—Hallopeau's Pyodermite végétante (? Dermatitis herpetiformis vegetans or Pemphigus vegetans). Sections from vegetations of same age, showing great thickening of prickle cell layer; abscesses in superficial and deep parts of the epidermis; very dilated lymph spaces in corium.

To Illustrate Dr. Douglas Heath's Case of Hallopeau's Pyodermite végétante

It seemed to be generally regarded as a mild form of that affection, whilst a few regarded it as more related to Dermatitis herpetiformis. It was of course well known now that cases of the latter affection might rather show a vegetating tendency as might many skin diseases, but it was, as a rule, more an accidental complication than a regular feature of the disease. In the case he had described, a condylomatosis of the base pustule seemed to be the rule rather than the exception, and he thought it could fairly be regarded as a characteristic feature of the disease. Secondary infection with pus cocci was generally supposed to be the cause of this vegetating tendency in cases such as he had described and in similar cases. He did not think himself there was any satisfactory evidence to support this view. He had seen severely suppurating Dermatitis herpetiformis and pemphigus without any condylomatosis, and the failure of local antiseptic treatment—even allowing for the thick resistant epithelium —was, he thought, against the view that secondary pus infection kept up the disease.

Treatment.—In spite of local treatment with weak sulphur ointment, perchloride of mercury and peroxide of hydrogen, the disease had rapidly progressed. Increasing doses of arsenic internally had failed to check the spread of the vesicles, and it had been discontinued for the past fortnight. Pil. saponis co., 5 gr., had been given for the past week and seemed to be slowly checking the disease, though it was as yet too early to be certain of this.

Dr. J. J. Pringle showed a case of *Pemphigus vegetans.* The President brought forward his case of Pemphigus vegetans in a soldier, aged 28 years, previously exhibited on January 21st, 1915.* No trace of his pemphigoid disease was present except three dry wart-like excrescences, about the size of a sixpenny piece, in the left axilla—the remains of previously bullous and slightly vegetative lesions—and one similar smaller adherent scab on an erythematous base over the manubrium sterni. Marking the seats of all pre-existing lesions on the trunk and limbs there was still some faint erythema and pigmentation. The mucous membrane of the mouth was natural, and at no part of the body was there any indication of active disease. The temperature was normal and the general health excellent.

* *Brit. Journ. Derm.*, 1915, xxvii, p. 63.

Before such a consummation had been attained, the clinical history of the case had been, however, extremely strange and eventful. It may be briefly summarised as follows: On January 24th the temperature rose to 104° F., and an immense crop of blebs of various sizes appeared all over the body, limbs, and face, as well as in the mouth. Their contents were sterile, and the examination of the urine revealed no sign of acidosis or intestinal toxæmia. On January 29th a typical erysipelatous rash appeared all over the face and involved a large portion of the scalp. This was attributed to an accidental infection from an intensely acute streptococcal abscess in an adjacent and communicating ward. The gravity of the patient's condition necessitated his removal to a special isolation ward, where he remained for three weeks with an extremely irregular and high temperature. His erysipelas recurred—or rather relapsed—on four occasions, but no fresh pemphigus blebs appeared after the first manifestation of the erysipelas, and, despite the apparently desperate condition of the patient, the erosions, produced by the rupture of blebs both on skin and mucous membrane, all healed rapidly and kindly. The whole of his hair, however, fell off, leaving him totally bald. On February 26th he suddenly expressed himself as feeling quite well, and consumed an enormous midday meal. On March 1st his temperature abruptly fell from 103° F. in the morning to 98° F. in the evening. It remained persistently sub-normal till his discharge from hospital on March 26th, except on March 11th, when it rose to 101° F. at midday; and it was on this date that the abortive vegetative lesions now present in the left axilla appeared as flaccid blebs. The erysipelas was treated throughout its course by large doses of quinine and by external applications of ichthyol.

(*Post scriptum*, June 11th.—The patient was seen to-day and is still apparently quite well, his axilla now being free from disease. His hair has grown in natural luxuriance. Despite these favourable signs, I opposed his earnest desire to rejoin his regiment, as I put no assurance as to the permanence of his "cure." No vaccine has been used since he was exhibited on January 21st.—J. J. P.)

Dr. J. M. H. MacLeod showed a case of *Dermatitis herpetiformis*. The patient was a man, aged 68 years, who had suffered from the eruption for two years. The early history of it was typical of

Dermatitis herpetiformis, the lesions consisting of itchy papulo-vesicles tending to be grouped in clusters and associated with intense pruritus. At the time of exhibition the skin of the trunk and limbs was covered with small white scars, excoriations, and an increase of pigmentation. The lesions were most marked about the buttocks and the upper parts of the thighs, the scars being the result of papules having been dug out by the finger-nails to relieve the intense irritation.

Dr. J. M. H. MacLeod also showed a *case for diagnosis*. The patient was a woman, aged 42 years, of a highly nervous disposition, with a bullous eruption affecting the arms, hands, legs, and mouth. The bullæ were flaccid and varied in size from a split pea to a filbert nut, and developed on apparently healthy skin. The original lesion had been a reddish patch which had appeared on the umbilicus during a pregnancy, the bullous eruption having developed soon after the child was born. This happened seven years ago. The eruption disappeared after being present for several months, but returned a year ago and had persisted ever since. There had never been much itching. An examination of the blood on May 3rd, at which time a few new lesions were appearing, showed 4 per cent. of eosinophiles. There was no marked tendency to grouping, and the involvement of the mouth and absence of itching pointed rather to chronic pemiphigus or Erythema bullosum than to Dermatitis herpetiformis.

Dr. George Pernet showed a case of *recurrent bullous eruption of the hands and feet* (*acropompholyx*). The patient was a woman, aged 49 years, who had had a recurrent bullous eruption of the hands and feet for twenty-nine years. She was first seen by the exhibitor at the West London Hospital in June, 1913, who referred her to the dental surgeon for oral sepsis and bad teeth. She had been attending at the hospital previously, and she had been given mist. hyd. biniod., and had been treated locally. Dr. Pernet ordered liq. arsenicalis, 4 minims, ad. 1 oz. t.d., p.c. The patient steadily improved, the recurrences becoming milder and milder, and less frequent. On March 23rd, 1914, she attended again, stating she had had no bullæ for three months. She kept well until February, 1915, when she had one or two small bullæ on the right sole. On May 11th, 1915, there was a recurrence on the left sole, but the hands had remained free from the trouble. There was no reason to look upon the case as having

anything to do with syphilis, though that was apparently the impression before the patient came under the exhibitor's observation, and would account for the fact that mist. hydrarg. biniod. had been ordered before she was put on the mist. arsenicalis, which certainly had a controlling effect. Etiologically, the oral sepsis had, no doubt, a good deal to answer for.

Dr. David Walsh showed a case of *pompholyx*. Patient, R. H—, female, aged 48 years, unmarried, seamstress, had suffered for seven or eight years on and off with a bullous eruption of the hands. Attacks usually began in the spring. On one occasion she had a few bullæ on her feet, and patient says she had "water-blisters" on her ears some years before the hands were attacked. The blisters did not rupture spontaneously, but dried up. They appeared on the palms, backs of the hands and wrists, and on all parts of the fingers; the nails were not shed. Sometimes there was a good deal of irritation. While under observation during the present attack the left hand became septic and was much swollen. Recent bullæ were found sterile when tested by ordinary laboratory media.

Dr. W. Knowsley Sibley showed *three cases of Dermatitis herpetiformis*. *Case* 1.—S. L—, a stout widow, aged 59 years, tailoress by occupation. The lesions commenced in July, 1914, and first appeared about fourteen days after a shock from the loss of her husband, who was killed in an accident. The condition was preceded by a great irritation and burning of the skin, after which bullæ appeared first on the forearms and then on the legs, and after a time extended more or less over the whole body. At one period they were very troublesome in the mouth. On January 26th, 1915, *Staphylococcus aureus* was isolated in pure culture from a recent bulla. An autogenous vaccine was prepared and injections given at weekly intervals, commencing at 100 millions up to 800 millions, after which the bullæ ceased to appear, and the patient had remained well ever since.

Case 2.—G. R—, a frail little girl, aged 9 years, whose parents were living and well; she had five brothers and sisters, who were all healthy. The eruption commenced in August, 1914, and was stated to have begun as a herpes on the lips. Shortly afterwards small bullous lesions appeared grouped on various regions of the body. At first the skin was very irritable and uncomfortable; after a few

months the cutaneous symptoms subsided. A considerable increase of pigment was present in most of the scars from old lesions. She had been a patient in a general hospital for a period of six months, during which time she had suffered from perpetually recurring vesicles and small bullæ on most of the cutaneous surfaces. Many of the lesions, especially about the face, were tending to become pustular and leave a dry, scab-like impetigo, but they were little, if at all, influenced by applications of mercurial ointment. Some six weeks ago the *Staphylococcus albus* was isolated from a recent bulla, and an autogenous vaccine prepared. She had now had five injections at weekly intervals, commencing at 100 millions increased up to 500 millions. The patient was apparently improving. Report of blood examination, May 20th, 1915: Red blood cells, 4,320,000 per cubic millimetre; white blood cells, 5100 per cubic millimetre. Differential leucocyte count: (1) Polymorphonuclear cells, 65 per cent.; (2) lymphocytes, small, 25 per cent.; (3) lymphocytes, large, 4·5 per cent.; (4) eosinophiles, 4·5 per cent.; (5) basophiles, 1 per cent.

Case 3.—C. R—, a fairly well nourished little girl, aged 12 years, both of whose parents were living and well. The patient was the seventh child in a family of nine, all of whom were living and well. The lesions commenced on the forearms some eighteen months ago, and the patient had never been free from vesicles or blebs on some part of the body ever since. The face, chest and back, palms and soles were the only parts which had not been affected at some time or another, nor had lesions been present in the mouth. At the present time the lesions were most extensive over the dorsum of the feet, which were covered with vesicles and blebs, many of which were ruptured and had made walking most painful. There was also an extensive outbreak about the external genitalia. Pigmented scars were scattered about in other regions, especially on the arms, legs, and thighs. At one time there was considerable skin irritation, but this had been less of late, and the general health had not been much affected.

Dr. E. G. Graham Little showed a case of *Dermatitis herpetiformis.* Patient was an elderly lady, sent to him by his colleague, Sir Anderson Critchett, in November last, when she gave a history of having had the eruption for a week. At that time there was very extensive bullous and pustular rash, almost varioliform in aspect, with char-

acteristic herpetiform grouping of lesions and intensely itchy and inflamed. She had never had any similar eruption previously. She was treated in the usual manner by rest in bed and increasing doses of arsenic, and made a satisfactory improvement, but she had never been absolutely free from fresh crops of vesicles since November. Latterly the eruption had been papular and urticarial rather than vesicular, and there were large patches of highly inflamed, reddened skin. Intense itching had all along been a prominent feature, but otherwise the general health had suffered but little, and for her age, which was sixty, she was a reasonably healthy woman. The case illustrated an interesting character of the disease—the mutation in type of the eruption in a comparatively short period of observation.

Dr. E. G. Graham Little showed a case of *Dermatitis herpetiformis in a boy*, aged 8 years. The patient had been previously exhibited to this Section* and was recorded in the April issue of the *British Journal of Dermatology*. Since that date he had been given 3-minim doses of liq. arsen. three times a day, and the eruption had faded away rapidly, and there had been no recurrence. But some three weeks after the treatment by arsenic had been instituted there had appeared in the position of the sixth dorsal segment on the left side a small patch of typical Herpes zoster, in the middle of the half girdle axis. The appearance of this patch when there was complete quiescence of the vesicular eruption of Dermatitis herpetiformis, the restricted distribution, and absence of itching in the patch offered means of distinguishing the vesicles of zoster from the earlier disease. This eruption might be ascribed to the administration of arsenic, but there had been cases of zoster following Dermatitis herpetiformis which could not be put down to the influence of arsenic, so that one could not decide which cause was operative here.

Dr. E. G. Graham Little showed a case of *chronic septic papilloma which had originated apparently in a bullous eruption*. The patient was a soldier, who gave the following history: Six months ago he was cleaning down a horse, when the animal swerved heavily against the man's leg, which was covered with the trouser at the time. The part began to itch an hour after and by night-time was reddened.

* *Brit. Journ. Derm.*, 1915, xxvii, p. 136.

Blisters formed on it within the subsequent five days, and he broke these from time to time, fluid being emitted. Warty masses began to show on the site of the injury, and at the present time there was a very extraordinary eruption of partly discrete papillomatous masses with a raised, fleshy red base covered by a dense filiform warty growth, the whole area so affected occupying the lower third of the anterior surface of the left leg over an area in size about 3 in. by 2 in. There was no evidence or history of venereal disease. It was proposed to excise the whole mass, and a report on the histology of the growth would be furnished later.

Dr. J. H. Sequiera showed a case of *Dermatitis herpetiformis*. D. M—, a tailoress, aged 20 years, had suffered from recurrent attacks of Dermatitis herpetiformis during the past two years. The eruption had chiefly occurred on the ankles and dorsum of the foot and adjacent parts of the legs, and on the forehead. The forearms had also been affected. The lesions consisted of erythematous patches, vesicles, and small blebs, usually in groups. The patient complained of intense itching, especially before the vesicles actually appeared on the surface. The general health was usually good. There had been symptoms of dyspepsia, and there were several carious teeth, which had been removed. On two occasions the blood-count showed no increase of eosinophile cells—polynuclear neutrophiles 52, eosinophiles 1, small lymphocytes 22, large lymphocytes 22, large hyaline cells 3 per cent. The cellular contents of an apparently clear vesicle showed polymorphonuclear neutrophiles and eosinophiles, the former predominating.

Dr. S. E. Dore showed a case of *recurrent eruption on buttocks and thighs*. The patient was a boy, aged 9 years, who had suffered from a recurrent eruption on the buttocks and posterior and lateral aspects of the thighs for the past four and a half years. The lesions consisted for the most part of scaly erythematous patches, some of which were excoriated or covered with crusts. Occasionally a blister had been noticed by the mother. There was no herpetiform grouping, and itching was not complained of. The eruption was said to come out in crops and to be more severe in the spring of the year. The patches were followed by pigmented stains, but there was no scar

formation. The glands in the groins were markedly enlarged. There were no lesions in any other part of the body. The boy was weakly and neurotic, and had suffered from nocturnal enuresis for twelve months; but his mother thought this had nothing to do with the causation of the eruption, which had been present for a comparatively short time and was not made worse thereby.

Dr. R. E. Scholefield showed a case of *pemphigus in a child*. Patient, a child, aged 9 months. The trunk and limbs were covered with small tense bullæ, which had come out in crops since the child was a few weeks old. The child was otherwise in good health. The bullæ appeared on healthy skin with very little surrounding inflammation.

Dr. F. Parkes Weber showed a case of *spurious erythromelalgia* (reported on page 197).

Dr. Graham Little also exhibited section of a portion of skin taken from the hairy part of the axilla of Mrs. R—, a private patient shown at the April meeting of the Section, with the diagnosis "Folliculitis decalvans et atrophicans."* The possibility of the affection of the axillæ, as distinguished from that of the scalp, being due to an early stage of Darier's disease was suggested at the meeting. This suggestion did not receive support from the histological appearances; there were no "corps ronds." The clinical aspect of atrophy of the hair was confirmed by the absence of hair-shafts in the section. Follicular and perifollicular keratosis was present.

Dr. H. C. Semon, I.M.S., showed a case of *Madura foot*. This case was demonstrated by kind permission of Lieut.-Col. F. F. Perry, I.M.S., C.O., Lady Hardinge Hospital, Brockenhurst, with cultures and microscopic sections of the diseased tissues, and presented the following salient features: The patient was a sepoy, aged 26 years, and was born near Rai Barelly, in the North-West Provinces of India, where "Mycetoma pedis" was not so common as it was in Southern India and Madras. In January of the current year a heavy ammuni-

* *Brit. Journ. Derm.*, 1915, xxvii. p. 183.

tion box fell on his right foot from a short height, but he did not report himself sick for the subsequent swelling for about six weeks. At the Base Hospital in Boulogne, amputation was suggested, but patient refused it, and was sent to the above hospital for further observation and treatment. There was very little doubt, of course, that the disease was contracted in India before patient left for the Front in October last, and that the accidental injury on which he laid so much stress was merely coincident with its primary clinical manifestation. The swelling did not seem even to have completely subsided, and about two months after the injury he began to be troubled with itching, and then a clear discharge developed. It had continued on and off ever since. There has been little or no pain, and no temperature throughout. The Wassermann reaction was negative, and there was no abnormality of the genito-urinary or other systems.

The diseased foot, to be described pictorially and more systematically in a further communication to the *British Journal of Dermatology*, presented the following points: There was an extensive area of darkened skin over the dorsal and tibial aspects of the swollen right foot, situated in which were soft protuberant masses of dusky purple granulations. These exuded clear fluid, and sometimes pus, from sinuses which had not yet been proved to extend as deep as the tarsus. In the discharge were present almost invariably the minute black granules, which both microscopically and culturally conformed to a generic type of fungus, known as mycetoma, of which Castellani described no less than fifteen distinct pathogenic varieties in his text-book of tropical medicine. On the tibial and plantar aspects there were a few small dark points which occasionally broke down and discharged the same sort of fluid. There was a progressive tendency for the arch of the foot to become obliterated, and there was increasing difficulty in walking.

No radical treatment of any kind had yet been attempted, and the literature recorded but few cases, and these only of a special variety, that had yielded to curetting, even in the very early stages. The cases had almost invariably succumbed to secondary septic infection after some years, if not treated by amputation in good time.

CURRENT LITERATURE.

THE GERMICIDAL POWER OF GLYCERIN ON VARIOUS MICRO-ORGANISMS UNDER VARIOUS CONDITIONS. E. H. Ruediger. (From the *Philippine Journal of Science*, November 1914, vol. ix, Sec. B, p. 465.)

The experiments described in this paper were made in order to obtain accurate information as to the extent that glycerin may be relied upon to sterilise bacterial vaccines. Glycerin was used in 12.5, 25, and 50 per cent. solutions of physiological salt solution, bouillon, and horse serum, the organisms tested being the typhoid bacillus, *Staphylococcus albus*, *Staphylococcus aureus*, the bacillus of anthrax, the bacillus of plague, the spirillum of cholera, the bacillus of diphtheria, and with the bacillus of glanders, respectively. Each tube received about one billion organisms.

For a period of fifteen days a 2-millimetre loopful of the bacterial suspension from each tube was planted on slanted nutrient agar, and after from three to five days' incubation the results were recorded.

The author concludes that glycerin has a distinct although feeble germicidal action.

The germicidal action varies greatly with the temperature, being much feebler at a temperature of 15° C. than at 30° to 35° C.

The germicidal action varies with the diluent employed; in glycerin diluted with physiological salt solution the micro-organisms died much sooner than in glycerin diluted with bouillon or with horse serum.

In dilutions up to 50 per cent., glycerin did not destroy the bacillus of anthrax in fifteen days. This may be due to the presence of spores.

Glycerin seems to be a selective poison for the bacillus of plague, the spirillum of cholera, and the bacillus of diphtheria.

In 50 per cent. of glycerin in physiological salt solution all the nonspore-forming organisms died in less than four days. J. H. S.

OBSERVATIONS ON MANGO RASH. Isabelo Concepcion. (From the *Philippine Journal of Science*, vol. ix, Sec. B, No. 6, p. 509.)

The object of the present study was to find out whether the mango in the Philippines is really a responsible factor of some of the transient rashes occurring so commonly from April to July, and which the islanders believe to be caused by this fruit, *Mangifera indica* (L.).

Four newly delivered nursing mothers in the obstetrical ward of the Philippine general hospital were chosen and were fed usually six mangos daily with their meals. Careful attention was given to select patients who were free from skin rashes. Daily observations were made on both mother and baby. Purgatives were given, when necessary, to eliminate auto-intoxication as far as possible. Both mothers and babies were sleeping under mosquito nets, so that mosquito bites were practically excluded.

The author found that the rashes were developed even during the cool typhoon periods, and that they may be made to appear and disappear by discontinuing

and renewing the mango feeding, and concludes that the etiology of these rashes is to be ascribed to the fruit itself.

The rash observed on the mothers was of the papulo-vesicular type, the itching papules and vesicles varying from a pinhead to about 2 millimetres in diameter. They were round or sometimes oval in shape and appeared in patches. The commonest sites of the rash were the mammary regions, the neck, and the extensor surfaces of the upper extremities. The eruptions found on the babies were generally of the maculo-papular type, but in some instances the papulo-vesicular type occurred. They appeared usually either singly or in patches. Their shape was circular, and they were comparatively larger than those found on the mothers. They generally developed on the face, the neck, and the extensor surfaces of the extremities, and not infrequently on the back.

After successive days of feeding the mother may acquire some degree of immunity or tolerance. The babies seemed to be more susceptible than the adults. J. H. S.

TINEA CAPITIS TROPICALIS IN AN EGYPTIAN SOLDIER, CAUSED BY TRICHOPHYTON DISCOIDES, SABOURAUD, 1909. Albert J. Chalmers and Alexander Marshall. (*Journ. Trop. Med. and Hyg.*, 1915, vol. xviii, p. 49.)

In this paper is described a form of Tinea capitis tropicalis caused by *T. discoides* (Sabouraud), met with in the Anglo-Egyptian Soudan. The fungus belongs to the ecto-endothrix division of the genus Trichophyton, and is one of the faviform trichophytons of Bodin.

The fungus has been known to occur in France and Denmark, and the case which forms the basis of this report was met with in an Egyption fellah. It occurs in men, horses, and cattle. It has been found in the scalp, beard, and glabrous skin. On Sabouraud's maltose agar the culture has the following characteristics: On the third day at 32° C. it appears a small yellowish-brown humid hillock covered with little projections of the same colour; on the eighth day this is seen to be situated on a yellowish-brown elevated plateau surrounded by a poorly marked fringe; on the nineteenth day the central knob is well-defined and the plateau marked with creases; on the forty-second day the culture presents a cribriform appearance, is surrounded by a white fringe, and shows a remarkable resemblance to the growth of *Achorion schoenleini* and to a less extent to old growths of *T. album*.

The clinical appearances produced by this fungus on the scalp consisted of a matting together of the hairs by yellow crusts, which when removed showed the skin to be red, swollen, soft, pitting on pressure, and exuding serum round the hairs which were not broken off. On removal of a hair it was observed to be surrounded by a white sheath, which on microscopical examination showed the spores and hyphæ of the fungus.

The treatment employed for the kerion was tobacco soap which was used as a lather for the affected area, and quickly affected a cure. The paper is well illustrated. J. M. H. M.

SOME OBSERVATIONS UPON THE CELLULAR ELEMENTS OF THE BLOOD IN THREE HUNDRED CASES OF VARIOUS SKIN-DISEASES. M. F. Engman and R. H. Davis. (*Journ. Cut. Dis.* 1915, vol. xxxiii, p. 73.)

The blood was examined in 300 mixed cases of skin-disease, which included, 72 different diseases. The leucocytes were counted in 227 cases, 88 of which showed an increase above ten thousand, while there was a definite leucopenia in 15 cases. There was a leucocytosis in 4 out of 14 cases of Dermatitis herpetiformis, in 8 out of 10 cases of Seborrhoic dermatitis, in 4 four out of 6 cases of Pemphigus vulgaris, and in 1 out of 8 cases of urticaria.

The large mononuclears were a striking feature in the investigation, as out of 272 cases in which they were counted there was a relative increase in 180. It was present in 18 out of 26 cases of Dermatitis herpetiformis, 9 out of 11 of Seborrhoic dermatitis, 5 out of 6 of Lichen planus, and in 1 case of Dermatitis herpetiformis the mononuclear leucocytes went up as high as 47 per cent.

Out of 275 cases in which the lymphocytes were counted there was a relative increase in 117.

With regard to eosinophiles, out of 253 cases in which they were counted only 71 showed a relative increase, which was most marked in pemphigus, Seborrhoic dermatitis, eczema, Mycosis fungoides, and Pityriasis rubra. In Dermatitis herpetiformis, out of 27 cases only 13 showed an eosinophilia. In pemphigus there was a decided tendency to eosinophilia, as in 6 out of 8 cases there was a high relative increase which seemed to vary with the extent of the cutaneous surface involved.

The writers do not consider that any definite conclusions can be drawn from their investigations. J. M. H. M.

ASYMMETRICAL RAYNAUD'S DISEASE. Douglass W. Montgomery and George D. Culver. (*Journ. Cut. Dis.*, 1915, vol. xxxiii, p. 219.)

The case which forms the subject of this contribution is that of a middle-aged woman who suffered from a swelling of the fingers of the left hand, which was so severe and painful as to prevent sleep, the pain not being alleviated by the ordinary analgesics. The affected fingers were swollen and stiff, the skin over them being stretched and presenting a smooth, glistening, red surface. The terminal phalanges, excepting that of the thumb, were insensitive to a superficial needle prick, but were hypersensitive to pressure.

There was no history of exposure to cold or alcoholism, such as might have been responsible for the condition. There was a history of previous attacks of redness, pain, and swelling in the same hand, and a definite history of syncopy preceding it. Later, the nails became blue, and greyish-yellow patches developed on the palmar surface of the digits, ending in dry gangrene of the tip of the finger.

The patient was put on a mixture containing lactate of calcium, and while taking this the pain subsided, the local asphyxia cleared, and the general blood-pressure fell. It is doubtful whether the calcium lactate was responsible for the improvement. J. M. H. M.

NOTE ON THE INTERNAL TREATMENT OF YAWS. Aldo Castellani. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 61.)

According to the writer, Ehrlich's salvarsan and neo-salvarsan are specific drugs for yaws, their efficacy being almost marvellous. When these are unobtainable, the following mixture is recommended: Tartar emetic, 1 gr.; sodii salicyl, 10 gr.; potass. iodid., 1 dr.; sodii bicarbonate, 15 gr.; to 1 oz. water. Three doses daily to be given, diluted four times the amount of water, to adults and youngsters of over 14 years of age; half doses to children of 8 to 14 years of age; and one third or less to younger children. The active drugs in the mixture are the potassium iodide, and, in a very much less degree, the tartar emetic. The sodium salicylate seems to hasten the disappearance of the crusts. The presence of a large amount of bicarbonate of soda, though making the mixture very inelegant, apparently prevents to a great extent the symptoms of iodism and decreases the emetic properties of the mixture, in this way rendering it possible to administer massive doses of potassium iodide and large doses of tartar emetic. Other drugs, such as mercury and liq. arsenicalis, were tried, but their action appeared to be practically *nil*, though they may occasionally be incorporated in the mixture. J. M. H. M.

THE ALOPECIA OF HYPOTHYREOSIS. Douglas W. Montgomery. (*Journ. of Cut. Dis.*, 1915, xxxiii, p. 260.)

The case here reported was that of a man, aged 41 years, suffering from typical calvities. He also showed certain symptoms of diminution or absence of thyroid secretion, and the gland was not palpable. He had a heavy, expressionless face, a thick, waxy skin, a lemon-yellow complexion, a malar flush, heavy lips, husky voice, and loosened teeth.

A local application containing tar and sulphur was ordered for the scalp and 5 gr. daily of thyroid extract. Under this treatment a great improvement occurred in the general condition, the hair began to grow better and became curly, brown, and glossy, and in some situations where the fall had been complete, as at the frontal margin of the scalp, there was a new growth of hair. The nose also became less red, and the general condition of the skin improved.

J. M. H. M.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

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Angioneurotic œdema, Notes on Two Cases of. T. L. Davis. (*Brit. Med. Journ.*, April 3rd, 1915, p. 594.)

Atrophodermia Biotriptica in Natives in the Anglo-Egyptian Sudan (illustrated). A. J. Chalmers and C. M. Drew. (*Journ. of Trop. Med. and Hyg.*, May 1st, 1915, vol. xviii, No. 9, p. 99.)

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Dermatitis exfoliativa, Relation of Psoriasis with Malignant. Antonio Zappalà. (*Giorn. Ital. d. Mal. Ven. e della Pelle*, December 31st, 1914, vol. lv, p. 883.)

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Œdema Exudativum Acutum. Leonardo Martinotti. (*Giorn. Ital. d. Mal. Ven. e della Pelle*, December 31st, 1914, vol. lv, p. 866.)

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Purpura Annularis Teleangiectodes. Geo. M. MacKee. (*Journ. of Cut. Dis.*, March, 1915, vol. xxxiii, No. 3, p. 186.)

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Purpura Annularis Teleangiectodes (Majocchi), Contribution to the Knowledge of. Copelli Mario. (*Giorn. Ital. d. Mal. Ven. e della Pelle*, March 6th, 1915, vol. lv, p. 70.)

Pyosis Corletti in British Soldiers. A. J. Chalmers and A. P. O'Connor. (*Journ. of Trop. Med. and Hyg.*, April 1st, 1915, vol. xviii, No. 7, p. 73.)

Urticaria Pigmentosa, Particularly in regard to its Histology. Frank Crozer Knowles. (*Journ. of Cut. Dis.*, March, 1915, vol. xxxiii, No. 5, p. 171.)

Xeroderma Pigmentosum following Severe Sun Exposure, with Report of Two Cases. W. T. Corlett. (*Journ. of Cut. Dis.*, March, 1915, vol. xxxiii, No. 5, p. 164.)

TUBERCULOSIS, LEPROSY, SYPHILIS.

Acnitis, with a Study of the Point of Origin of the Pathological Process, Report of a Case of. L. W. Ketron. (*Bulletin of the Johns Hopkins Hospital*, April, 1915, vol. xxvi, No. 290, p. 111.)

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Angio-keratoma Circumscriptum in the Left Thigh. Joh. Fabry. (*Derm. Zeitschr.*, January, 1915, Bd. xxii, p. 1.)

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Alopecia of Hypothryeosis. Douglas W. Montgomery. (*Journ. of Cut. Dis.*, April, 1915, vol. xxxiii, No. 4, p. 260.)

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meetings held on May 20th and June 3rd, 1915, Dr. J. J. Pringle, President of the Section, in the Chair.

DISCUSSION ON PEMPHIGOID ERUPTIONS.

(*Continued from page* 226.)

Sir Malcolm Morris, K.C.V.O., said that the first point which struck him was that so little advance had been made in this subject since the debate of 1898. Dr. MacLeod had therefore undertaken a very difficult task, which entitled him to the thanks of the Section.

His first experience of diseases of the skin was gained in the year 1871, when he took Hebra's course in Vienna, remaining in that city several months, and there acquiring his interest in dermatology. Hebra was a remarkable personality, who had an enormous power of communicating to others his own enthusiasm for dermatology. Crowds of men came from all parts of the world to sit at the feet of that great teacher. Many quite different cutaneous affections, which apparently had little or nothing in common, were all relegated by Hebra to the great pemphigus group, and he (the speaker) left Vienna with the idea that any disease which presented bullæ of moderate persistence was a pemphigus, although Hebra, of course, excluded accidental bullæ, which were obviously due to external causes. Tilbury Fox's famous paper, written in 1879, or just before that date, was only published in an American paper in 1881, and was

lost sight of; and the subject was not revived in the minds of dermatologists until Duhring, by what he ventured to call an act of genius, picked out certain cases which, he held, differed clinically from pemphigus and erected them into a new group under the designation of Dermatitis herpetiformis. The departure met with strong opposition from the Vienna school, then represented by Hebra's son and Kaposi, and it was contended that the cases properly belonged to the group to which the elder Hebra had assigned them. He, however, was strongly of the belief that Tilbury Fox and Duhring were right; that the cases which they named Dermatitis herpetiformis differed essentially in their characters from those of the pemphigus group—*i. e.*, from chronic pemphigus. He held, therefore, that the disease called Dermatitis herpetiformis was a distinct entity, which it was only confusing to class with Pemphigus vulgaris. The clinician must recognise that there were many cases of which it was difficult to determine to what group they belonged; they were intermediate cases, which overlapped each other. But the condition so clearly described by Tilbury Fox and Duhring, and later emphasised by Brocq and the French School, as Dr. MacLeod had reminded them, was a quite definite disease. The cases which conformed to this type were at one end of the group; Pemphigus vulgaris was at the other end.

In connection with the cases exhibited that afternoon, it would have been of extreme interest to discuss to what groups they belonged; some tended to the true pemphigus type, which, he considered, always bred true, while others tended towards Dermatitis herpetiformis, which also, when typical, bred true. He had watched some cases of the latter type for years, and had had opportunities for a careful study of them. They all seemed quite definite and characteristic, and it would be to him a great disappointment if, after all these years, those cases, so well defined, were put back into the group from which they had been differentiated by a triumphant piece of analysis; this would be, in his opinion, a distinctly retrograde step.

Dr. MacLeod's first question was whether the eruptions classified under the head of Dermatitis herpetiformis were all due to one cause. But as to the cause they were entirely in the dark. Dermatologists had tried to catch at straws in individual cases; they vaguely hoped

they were somewhere near the mark when they said that one case was due to worry, another to shock, and so forth. But such ætiological surmises led to nothing in the nature of a generalisation, and it had to be confessed that they knew virtually nothing about the causation of the disease. The proper answer to the first question, therefore, was: Cause unknown, clinical type distinct.

As to the difference between Dermatitis herpetiformis and chronic pemphigus, or Pemphigus vegetans, there was one point which, he thought, had not been touched upon in the study of this subject, but which seemed important—namely, the extraordinary depth of the vesicles in true Dermatitis herpetiformis. Three years ago he showed a patient before the Section whom he had watched for seven years, so that he had now had her under observation for ten years. That patient had repeatedly come to him and said of the vesicles, "There are some here, and others are coming." He would tell her that there was nothing to be seen at the points where she believed vesicles were coming, but she remained positive that they were on the way, and so, time after time, it proved to be so. As the deep vesicles began to form the itching was intense, and, with the savagery towards themselves which was characteristic of this disease, patients would dig their nails deep into the skin to root out the lesion, their experience being that as soon as the vesicle was ruptured the irritation found a relief which no application seemed to afford. Dr. Galloway and others, too, perhaps, knew of the case of an unfortunate man who had suffered from the disease for many years, and had acted in the manner described in his (the speaker's) consulting room. He had had this patient under observation for three quarters of an hour at a time; he would sit on the sofa, refusing to dress, and busying himself in hunting for the deep vesicles and tearing them out, and it was curious, after he had done so, to observe his expression of blissful relief. In the character to which he was drawing attention Dermatitis herpetiformis differed strikingly from pemphigus, in which not only were there no such extreme attacks of itching, but the lesions were too tender and painful to allow of the self-inflicted violence he had described.

In the debate of 1898 he stated that he had known four cases in which death appeared to be directly due to Dermatitis herpetiformis; in two of them death occurred suddenly as the eruption disappeared,

and he believed the President had seen similar cases. Such cases were not described in books on dermatology, and the connection between death and the disappearance of the eruption might be a mere coincidence; nothing being known of the cause of the disease, he limited himself to a mere statement of the clinical fact. He had not met with such a case since 1898.

It was rather remarkable that in his private practice he had had fewer instances of Dermatitis herpetiformis since 1898 than before that year. Whether the explanation was that the incidence of nervous instability was somewhat less than it used to be he did not know. But he thought it not improbable that after the time of stress through which the nation was now passing, cases of the disease would be less rare. He was already beginning to observe an increase in the number of cases of Lichen planus, due, he was inclined to think, to the worry which the war was bringing in its train.

Since the debate of 1898 he had taken special note of the children brought to him suffering from cutaneous diseases, and during the whole of this period he had not had a case in a child which conformed to the Dermatitis herpetiformis type. He had seen in children many cases which persisted for many months, or for years; but they had all been cases of vesicating Lichen urticatus, and he agreed with Dr. MacLeod that in typical Dermatitis herpetiformis urticaria was a rare concomitant.

In typical Dermatitis herpetiformis the mucous membranes of the mouth were much less affected than in pemphigus. This he regarded as another great difference between the two conditions. In one or two instances of the former disease the pathological process had begun in the mucous membrane of the vagina and had then appeared on the skin elsewhere, but not in the mouth.

"Essential shrinking" was, in his opinion, associated with pemphigus, not with Dermatitis herpetiformis. In the latter condition, he had never known the eye to be affected with von Graefe's disease; but he had seen and published cases showing that association in pemphigus.

There was much that he would have liked to say about treatment had there been time; but he must briefly refer to arsenic. He believed, with the late Sir Jonathan Hutchinson, that arsenic was of the greatest possible service in pemphigus. It was much less serviceable in Der-

matitis herpetiformis; but he was inclined to think that it had been more beneficial in his recent experience than he formerly found it to be. In the case of the patient whom he had had under observation for ten years, he was certain that her sufferings were greatly mitigated by this drug, for its vigorous employment repeatedly led to a temporary cessation of the attacks. She came to feel that she would rather endure chronic arsenical poisoning than suffer from her disease, and he confessed that he sympathised with her in her choice between the two evils. This, indeed, was one of the few diseases in which it was justifiable to push arsenic almost to poisonous doses.

External treatment he regarded as the most difficult aspect of the therapeutics of Dermatitis herpetiformis. He had known some cases to be benefited by warm alkaline baths, others were not. Sulphur ointment was said in certain books to be useful, in his experience it seldom was so, though some slight benefit might occasionally be traceable to its employment. The patient to whom he had referred more than once was a woman of intelligence and observation, who had very carefully studied the course of her disease, and her experience was that when the lesions had burst she found relief by rubbing in an alkaline application, such as carron oil or zinc cream.

He concluded by moving a vote of thanks to Dr. MacLeod for the able paper in which he had introduced the subject of the debate.

The President intimated that the debate would be resumed at 5 o'clock on Thursday, June 3rd. Several members had intimated their desire to participate, so that a very interesting discussion was promised.

Dr. George Pernet said that in the first place the term "pemphigoid" was not a desirable one, a point upon which he was in agreement with the opener. He would reply to the question put by the opener, in the following order:

(1) He did not regard the eruptions classified under the heading of "Dermatitis herpetiformis" as due to one cause, nor did he regard them as variants of one morbid entity. They might arise from a variety of causes, usually toxic, either through the blood-stream or by way of a neuro-reflex arc. In 1910 he published a note on "Pemphigus and Dermatitis Herpetiformis"* relating to the case of

* *Brit. Journ. Derm.*, 1910, xxii, p. 1.

a woman who had had a pemphigus (bullous) eruption starting from a septic vaginal focus and who had subsequently presented, when this had cleared up, an eruption of the Dermatitis herpetiformis type. The subject was a very complex one and the opener had well brought out the various points. Speaking from his own experience, Dr. Pernet was of opinion that a variety of eruptions of the erythematous and urticarial kinds, including vesicular and bullous conditions, might arise clinically from one and the same toxic cause. On the other hand, one type of eruption might result from a variety of causes.

(2) Though Dermatitis herpetiformis was in its classic form clinically distinct, it was, in his opinion, probably related to chronic pemphigus and Pemphigus vegetans. The soil on which the pathogenic forces acted had to be taken into account. He had seen cases of alleged Dermatitis herpetiformis in children, but he had doubts about the correctness of the diagnosis.

(3) As to Impetigo herpetiformis, he had never seen an actual case which entirely fitted the description given. But he had described what he had named a Dermatitis pustulosa vegetans recurrens in some ways like the case shown by Dr. Douglas Heath at the last meeting, and which probably came into the same category as Impetigo herpetiformis and Hallopeau's "Dermatite pustuleuse chronique en foyers à progression excentrique." This has been discussed in the speaker's paper on "Dermatitis pustulosa, etc.," in the *Journal of Cutaneous Diseases*, New York, September, 1912.

(4) With regard to eosinophilia, he considered this was a toxic phenomenon. Eosinophilia was present in the blood of those acting as hosts to parasitic worms.

(5) The speaker had not of late years seen instances of typical Dermatitis herpetiformis. The condition seemed rarer than formerly. He had had experience of classical Dermatitis herpetiformis, and, like everyone else, had found it most refractory to treatment, the painful itching being the symptom that gave most trouble. But he had observed cases which came into the category of Dermatitis herpetiformis, but of a mild type. These yielded to salicin in the few instances he had seen. As to the painful itching, he had see an otherwise typical Dermatitis herpetiformis in a boy, following varicella, in whom the pruritus was entirely absent. He had not had an opportunity of trying lumbar puncture, but from what he had read that procedure

did not appear to give the startling good results that one obtained from it in early acute generalised Lichen planus.

In conclusion, he would recommend a perusal of Brocq's paper on the "Dermatitis polymorphes douloureuses."

Dr. Knowsley Sibley said that the difficulty which apparently arose in the discussion was as to what to include and what not to include under the heading "Dermatitis herpetiformis." Dr. MacLeod gave us three cardinal features of the disease: (1) The multiformity of type of the lesions; (2) the herpetiform grouping; and (3) the intensity of the subjective symptoms. Dr. Sibley's feeling was that the third of these, the intensity of the subjective symptoms, was the most important, and that no case which, though having a bullous eruption, had not cutaneous symptoms out of all proportion to the physical appearance, should be included under the heading "Dermatitis herpetiformis." He believed this complaint to be a distinctly tropho-neurotic condition, as illustrated in the cases of it which were seen in pregnant women, cases which he considered to be fairly numerous. Some of them might remember the case of the woman he showed at the previous meeting; she had a severe attack of Dermatitis herpetiformis, which came on after a shock at the loss of her husband from an accident. About a fortnight after she complained of great irritation, itching and burning, of her skin. After that had persisted for some weeks she had a vesicular, and later a bullous, eruption, more or less over the whole body; and there were associated lesions inside her mouth.

That brought him to the discussion of the question of lesions of mucous membranes in this disease. His opinion was that one might see cases of Dermatitis herpetiformis affecting only the mucous membranes. Some years ago Jacobi, of New York, had reported some cases under the heading "Stomatitis neurotica chronica"; and independently about the same time the speaker had recorded three or four cases.* He believed them to be cases of Dermatitis herpetiformis; there was a vesicular eruption inside the mouth, the lesions tended to come out in crops, they were very painful, and there was indefinite persistence; some went on for years. One case was reported with a duration of thirty years, accompanied by an astound-

* *Brit. Med. Journ.*, 1899, i, p. 900.

ing amount of physical suffering. There were no lesions on the body in those cases, and the subjects were all neurotic women, the onset having been determined by shock or worry, or other mental disturbances. So much was this the case in typical examples that one wondered whether it would not be wise to substitute the term "Dermatitis neurotica chronica" for "Dermatitis herpetiformis."

Dr. MacLeod asked, in his opening paper, whether there might be mild cases of the disease. The speaker presumed he meant by that, localised as opposed to extensive cases. He thought they might meet with such. He had in his memory the case of a professional lady who, whenever she had an exceptional amount of worry or trouble, had a vesicular eruption on the lower part of the abdomen, between the umbilicus and the symphysis pubis. This was accompanied by great pain, burning, and distress of the skin. The eruption was not unilateral, it occurred on both sides of the abdomen. He had seen her in a number of these attacks, which lasted from several weeks to months, without, apparently, any lesions elsewhere. That he regarded as a case of mild Dermatitis herpetiformis. Therefore, if the intensity of the skin sensations were essential, one would exclude from the group, cases which are met with in infants and young children, as it was recognised that practically all the cases they saw in infants and young children were associated with very slight or no cutaneous symptoms. He believed that some of the cases which had been recorded as occurring in young children, following vaccination, were examples of generalised vaccinia. They were, perhaps, rarely recognised as such, and the condition might persist for months. The other cases which they see in children always seemed to be of the impetiginous variety, rather than Dermatitis herpetiformis.

He also thought that sufficient stress was not usually laid on the secondary organism—he supposed it was secondary, though he had not quite convinced himself that the vesicles were always sterile at the beginning. Certainly, early in the eruption, an organism generally appeared in the vesicles, and his impression was that that organism plays an important part in the disease; at any rate, he was certain, from an experience of many cases, that a vaccine prepared from the organism and given to the patient seemed greatly to benefit the progress of the complaint. Possibly they would note later that cases having some organisms progressed more favourably than did those with other

organisms. He was trying to collect cases to determine that point, but his material was not yet sufficient to enable him to be sure about it.

With regard to treatment, he treated his cases locally with radiant light and heat baths, as those relieved the cutaneous symptoms. If they failed he gave alkaline or bran baths; and he also gave a vaccine prepared from the organism found in the early lesions. In cases with which anæmia was associated he administered arsenic; but he very rarely gave arsenic for any cutaneous conditions, except where anæmia was present, and then principally when the patient was a young girl. With regard to the relief of the distressing skin symptoms, he was sorry to hear Dr. MacLeod recommend morphia; it seemed to him that in dermatological practice morphia was a drug which should hardly ever be given. He thought all these cases of intolerable itching yielded to one or other of the coal-tar preparations—antipyrin, phenacetin, aspirin, and so on—and it was undesirable to give morphia, especially in young people. The only kind of skin case in which he thought it might be given justifiably was the chronic painful ulcer of the leg in old people, where the opium not only acted as a sedative, but also as a tonic to the general nervous system; but he now considered it unwise to prescribe morphia to young or middle-aged patients.

Dr. Stowers said that despite the fact that their knowledge of this class of disease had not materially advanced since the discussion which took place in 1898 to which allusion had been made, it was desirable that a periodical revision should be allowed in order to reconsider their position in regard to it. By this means the older views might be tested and new facts elicited. Such a discussion acted as an incentive to further observation on the part of those members of their Section and others who had clinical material at their disposal and controlled modern methods of investigation and research. For these reasons, apart from others more personal to himself, they were much indebted to Dr. MacLeod for the valuable *résumé* he had given them in his paper.

The author commenced by defining the sense in which the term "pemphigoids" should be employed—viz. to include Dermatitis herpetiformis and the hydroa, but to exclude acute pemphigus and Pemphigus neonatorum, which were attributable to specific causes. His figures as to incidence were interesting as showing the compara-

tive rarity of these affections; and the three cardinal features enumerated—viz., multiformity, grouping of lesions, and intensity of subjective symptoms, often of the severest nature—were the characteristics which could be relied upon for diagnostic purposes. It was understood that the partial, or even complete, absence of one of them did not necessarily exclude the diagnosis. The variation in size and shape of the vesicles was well known and Dr. Stowers agreed that the blebs of Dermatitis herpetiformis did not approach in magnitude those frequently seen in chronic pemphigus. It was true also that cases of congenital Epidermolysis bullosa (of which he had recently seen a marked example sent to him as chronic pemphigus) had been confused with this group, but the history, together with the mode of onset, and the sites of body affected, apart from the character of the lesions, would suffice to eliminate them.

Two statements of Dr. MacLeod could be confirmed by general experience—viz. that herpetiform grouping was occasionally absent in children but invariably present in adults, and that the itching was often of a mild degree in children as compared with adults. Without doubt many of these, as he had indicated, were instances of vesicating Lichen urticatus, a variety or stage of that common disorder which was familiar to them all, the ætiology of which had been so fully described by one whose absence they had greatly deplored—he referred to Dr. Colcott Fox, a former President of this Section.

Dr. MacLeod had told them that the mucous membranes were involved in 22 out of 100 cases of Dermatitis herpetiformis examined and reported. This was a smaller proportion, the speaker thought, than in pemphigus and Pemphigus vegetans.

The most striking instance that he had met with was that of a male patient, aged 46 years, photographs of whom he would hand round for their inspection. He was employed at Maidstone as a railway goods porter and was frequently engaged in night service. The original lesions, limited in severity, occurred on the abdomen, thighs, and forearms, the subjective symptoms being of a moderate degree only. He attended as an out-patient at hospital on several occasions for a couple of months and sufficiently recovered for treatment to be discontinued. About eighteen months later he was brought up again in a deplorable condition, with an acute general outbreak, the eruption being chiefly vesico-bullous and bullous, with offensive

discharge and much crusting. The subjective symptoms were terribly severe. It was stated that for many weeks before admission the constitutional disturbance had been very marked, with elevation of temperature, etc. of the septic type. Careful nursing and treatment relieved him for a time, but, in spite of all, his condition became aggravated, the bullæ increasing in number and involving new areas, the constitutional disturbance becoming more marked and asthenic in type. He eventually died from exhaustion in a typhoid state, occasional severe diarrhœa having supervened. The mucous membrane of the mouth and fauces was visibly affected and the septic discharge from the nose indicated that the whole mucous tract was involved. Unfortunately, no post-mortem examination was allowed, so it was impossible to investigate the condition of the stomach and intestines, which undoubtedly were similarly affected. It was possible that this patient was the subject of some septic infection in addition to the autogenous toxin which primarily affected him, but no local evidence could be traced. Dr. Stowers learnt later that he had been engaged in unloading a railway truck containing bullocks' hides which were in a very malodorous condition.

Dr. MacLeod had raised the question as to whether an increase of coarse granular eosinophiles in the blood could be accepted as characteristic of Dermatitis herpetiformis. He had admitted that they varied according to the phase of the disease, and further that they were by no means constant in the course of a case and at certain periods might even disappear. The late Radcliffe Crocker, Leredde, and others laid much stress upon their presence. Johnston, of New York, had stated that in practically all bullous disease except epidermolysis (and he included severe cases of pompholyx in the group) in which a symptom complex occurred which all observers associated with intoxication, as evidenced by high temperature and its concomitants—including scanty and high-coloured urine—the blebs as well as the blood showed eosinophilia. It was noteworthy, however, that in the bullous dermatoses, while the eosinophile cells abounded in the blood, and also in the fluid of the natural bullæ themselves, an artificial blister produced on the skin of a patient so suffering most probably would not present eosinophilia. These investigations led him (Johnston) to the conclusion that the eosinophilia was due to the direct action of the poison on the eosinophile

myelocytes of the marrow. The presence of eosinophile cells in the blood has also been found in Pemphigus vegetans and Pemphigus foliaceous, and moreover they had been reported as abnormally abundant in some cases of leprosy. In spite, however, of the opinion of skilled observers that the excretion of eosinophile cells by the skin was "an essential part of the cutaneous phenomena and, together with the eosinophile cells in the blood, are characteristic of Dermatitis herpetiformis," it was, the speaker feared, impossible at present to give a satisfactory answer to the specific question before them.

The differential diagnosis between Dermatitis herpetiformis and chronic pemphigus, so far as the skin lesions were concerned, has been clearly put by Dr. MacLeod. In the former, as he said, the eruption was multiform, in the latter uniform. The bullæ in Dermatitis herpetiformis were seldom larger than a filbert, in chronic pemphigus they might attain any size, and in this latter disease there was an absence of the premonitory and other subjective symptoms which in Dermatitis herpetiformis were often of such severe character. Dermatitis herpetiformis was common to both sexes. If he understood Dr. MacLeod correctly he said that according to one author the proportion was about seventeen females to seven males. This, he thought, did not correspond with general experience, his own impression being that in spite of gestation cases in women it was more frequent in men. The most severe and the fatal cases which he had seen occurred in male subjects.

With reference to Dr. MacLeod's question, Were the eruptions classified under the heading of Dermatitis herpetiformis due to one cause and could they be regarded as variants of one morbid entity? he would say that, if this disease was of toxic origin, and the lesions of the body certainly pointed in that direction, the evidence that it was primarily a general systemic disorder, and that the cutaneous developments were secondary manifestations through nerve influence, was fairly conclusive. If a neurotic basis was claimed as a primary factor this did not exclude the theory of auto-intoxication, but in some measure supported it. As to the nature of the poison, or poisons, in any such intoxication, it could hardly be expected that they would be proved and separated, and especially if they were gastro-intestinal in origin, as was usually the case. It would be remembered that in the recent discussion on alimentary or intestinal toxæmia special reference

was made by several speakers to this point. Possibly the gestation cases might be due to a neurosis from uterine irritation, but additional evidence was needed. He had recently seen a married woman who had been the subject of Herpes gestationis for limited periods during eight consecutive pregnancies, the cutaneous lesions developing after persistent and severe itching for several weeks. Bullæ were stated to have first appeared upon the abdomen and thighs, usually about the fourth or fifth month onwards, and then to have extended to other parts, varying in number and size, some declining while others developed. Invariably the eruption subsided spontaneously after delivery. The pigmentary staining consequent upon so many attacks was very remarkable.

The associated conditions reported to stand in causal relation to Dermatitis herpetiformis were various. Nervous exhaustion with vital depression, in whatever way produced, could not fail to act as a predisposing influence, but as this was common to many diseases it was insufficient without a determining factor, an auto-intoxication, through the medium of the nervous system, to produce the characteristics of this disease. The nature of this had not been determined. Whether, therefore, the eruptions classified under the heading of Dermatitis herpetiformis were due to one cause, or whether they should be regarded as variants of one morbid entity, with their present limited knowledge it was impossible to say.

He agreed with Dr. MacLeod that the evidence they possessed justified the conclusion that Hydroa æstivale was distinct from Dermatitis herpetiformis. He would hand round a photograph of an interesting case of this disorder which recurred annually for many years, and curiously was associated with a similar development on the ears of his twin brother. Impetigo herpetiformis was not improbably allied to Dermatitis herpetiformis, but the relationship, as yet, was not clearly understood.

On the subject of treatment it was essential to bear in mind that there were two distinct but interdependent conditions to be dealt with —viz., (1) the substantive disease proper with the constitutional symptoms it produced, and (2) the cutaneous manifestations, which were of secondary character and of varying intensity, the location of which depended upon local structural conditions—*i. e.*, the degrees of resistance in the cutaneous tissues of different individuals. Bullous

diseases could not be regarded as limited to the skin and its appendages, for they were in fact general systemic disorders of *toxic nature*, the surface manifestations, of whatever degree, constituting the secondary local expressions only. To combat the former a treatment based upon the principle of elimination must be adopted, and in addition the functions of metabolism, in relation to proteid substances especially, had to be regulated. For this purpose a selected diet was needed consisting largely of milk. Efficient and repeated purgation was essential, with frequent water drinking. Lavage of the colon had been recommended. Derangements of stomach, liver, and kidneys must be corrected. Of the many drugs suitable for internal administration, quinine, strychnine, salicin, salicylate of soda, and ichthyol, with intestinal antiseptics, were among the most reliable. Arsenic, however, although not a specific, has proved of the greatest value in many cases and was advocated by experienced observers, but a liberal administration of the drug in gradually increasing doses was needed. Sir Malcolm Morris had already emphasised this point. Dr. Whitfield had reported a case in which recovery took place after the continued administration of the solution of arsenic in 20 minim doses. Two articles published in the *British Medical Journal*, in 1897 and 1899 respectively, by the same writer were worthy of special study. They were entitled "A Personal Experience of the Disease (Dermatitis Herpetiformis) by a Physician." Recovery in his instance was attributed to the persistent administration of the arsenical solution with dialysed iron. Opium was stated to have relieved the itching when morphia failed. Arsenic in the limited doses admissible in Herpes gestationis was of lesser value, but the indications for its use were comparatively small. The X-rays had been applied in localised types,* but it was not desirable if the disease was general. Personally, he had had no experience in this direction.

The local treatment consisted in emptying the blebs at once, which all sufferers agreed greatly relieved the irritation, and applying sedatives and antiseptics in the form of medicated baths, fomentations, lotions and ointments. If baths were used prolonged submersion was desirable. Nearly all the local medicaments required could be conveniently applied and mixed with a soluble pellanthum, menthol and carbolic acid, 2 per cent. of each, in this form being of much value.

* Half-pastille doses once a week and repeated.

Painting the affected areas with a solution of either carbolic acid, iodine, or nitrate of silver, frequently controlled the severity of the itching. Lastly, antiseptic absorbent dusting powders should be freely applied, care being taken to prevent the formation of crusts, which always added to the distress of the patient.

Dr. Adamson believed that Dermatitis herpetiformis was a distinct disease, different in many respects from Pemphigus vulgaris, though possibly nearly related. He regarded it as a very rare disease, and thought it was often diagnosed on insufficient grounds. Many cases which had been recorded under this name seemed to him to be typical examples of Pemphigus vulgaris—those cases, for example, which Bowen and Gardiner had described as Dermatitis herpetiformis in children. Many modern observers seemed to lose sight of the fact that according to the earlier writers—Bayin, Liveing, Tilbury Fox, and Duhring himself—Dermatitis herpetiformis was essentially a neurosis, and the presence of subjective sensations of burning and intense itching a very important feature of the disease. Because an eruption was bullous, and with a tendency to grouping, did not justify the diagnosis of Dermatitis herpetiformis. In Dermatitis herpetiformis the lesions were often not bullous, but erythematous, papular, or vesicular, and the intense itching was a more striking character than the bullous eruption. One could only make a certain diagnosis in a case in which these symptoms of grouped erythematous, vesicular, papular, or bullous eruption, with intense itching, were repeated again and again after clear or comparatively clear intervals. In Pemphigus vulgaris, on the other hand, the most striking feature was the bullous eruption, subjective symptoms were absent or slight, and a diagnosis could generally be made at first sight. In his experience, Pemphigus vulgaris was comparatively more common than Dermatitis herpetiformis, for he had observed twenty cases of pemphigus and three only of Dermatitis herpetiformis during the same period. He did not think the statement of some French writers that Pemphigus vulgaris was almost invariably fatal, and Dermatitis herpetiformis seldom so, was a correct distinction, for in two thirds of these cases of Pemphigus vulgaris recovery had taken place.

They knew little, if anything, as to the cause of this disease, but the occurrence of a similar, if not identical, affection in pregnant

women suggested a toxic origin—an absorption of placental toxins or of toxins due to metabolic disturbance. And in this connection the successful treatment of cases of Herpes gestationis, of Dermatitis herpetiformis, and of pemphigus by injections of human blood or human serum might help to throw light on their ætiology. Most of this treatment had been carried out in Germany and in America during the past five years, but he had recently, in association with his colleague, Dr. Stansfeld, treated five or six cases of pemphigus by injections of human blood with some strikingly good results; though he would not say more about this treatment until he had had further experience.

Dr. Whitfield said that in the present state of our knowledge there were lamentably few facts from which to argue, but there were one or two points to which he would like to refer.

The first was the opinion expressed by one or two of the previous speakers as to the greater rarity of Dermatitis herpetiformis than formerly. He thought this was due to different attitude as to the diagnosis. He would put it as a historical phase of thought. A disease was first described, then it became more or less well known, then it "became the fashion," and was diagnosed frequently, and then a reform took place, and the diagnosis was made less often. He thought that they were now in the stage of reform, and that many cases were now called (and rightly so) pemphigus which fifteen years ago would have been called Dermatitis herpetiformis.

Secondly, he would give his opinion as to whether there was a disease or set of symptoms which deserved the name of Dermatitis herpetiformis. Most of the points of differential diagnosis were so elusive that he was almost inclined to agree with Dr. Graham Little that the separation of Dermatitis herpetiformis was, in the present state of our knowledge, premature. He could not, however, quite subscribe to that view. He thought there was a disease which deserved separation from pemphigus, but when there was, as often happened, a difficulty in diagnosing this disease, the difficulty lay not in distinguishing it from pemphigus but in separating it from some entirely different disease, such as prurigo, urticate erythema, or even vesicular and papular eczema. The itching was, of course, very intense, but so it was in these other diseases just mentioned.

The eruption was often very ill-defined, and the patient at times showed nothing more than the results of scratching, but if the case were studied for some while, and its phases watched, there would come a time when one would find the ill-developed erythematous patch with small herpetiform vesicles set usually in a ring round the margin of it; Dr. Whitfield said that he was pretty confident that that was the view taken by Dr. Colcott Fox, who had been in close collaboration with the late Tilbury Fox when he gave such an accurate description of his group of cases. Duhring, in his later monograph, seemed to the speaker to have claimed too much for the disease. While on this subject he would like to raise a strong protest against the idea that all cases of pemphigus which were pruritic were in reality Dermatitis herpetiformis, and also that those with circinate grouping, Pemphigus confertus, of the older authors, were also Dermatitis herpetiformis. He might, perhaps, point out that the photograph of pemphigus published in his book was one of a case under the care of Dr. Colcott Fox, who regarded it as classical pemphigus, yet the lesions were grouped in rings. He apologised for dwelling at such length on this point, but he thought there was undoubtedly a disease characterised by the outbreak of prurigo-like papules, erythematous patches, and *at times* herpetiform vesicles, which was not likely to be mistaken for true pemphigus, and for which, if they do not use the term "Dermatitis herpetiformis," they must create a new name.

That led him on to two other points—namely, the presence of eosinophilia and the therapeutic reaction with arsenic. Neither of these was, in his experience, of the slightest value in making the diagnosis from pemphigus. It was formerly said that Dermatitis herpetiformis did not yield to arsenic so often as did pemphigus. He could not say whether there was *any* difference, but he was convinced that the difference was not marked. He had seen many cases of pemphigus which did not yield to arsenic, and several of Dermatitis herpetiformis that did. He had a case under his care in a middle-aged woman—a case of the most exquisite Tilbury Fox type—which had never shown a bulla the size of a green pea, but was constantly covered with itching papules and small rings of erythema with hempseed-sized vesicles, which could be kept under complete control by high doses of arsenic, and under partial control by moderate doses. She had arsenical

palms in a mild degree and marked arsenical pigmentation, and the plan now followed was to give her occasional rest from the arsenic, during which she had to bear the eruption, and then when the arsenical symptoms had partially subsided to return to the least dose which made life bearable.

In conclusion he would say that he had never made the diagnosis of Dermatitis herpetiformis in a child, and he had formed no opinion as to the relationship of Dermatitis herpetiformis to simple chronic pemphigus, Pemphigus foliaceus, or Pemphigus vegetans.

Dr. Graham Little said that in his view, while every credit was due to Tilbury Fox and Duhring for their work, which had resulted in the separation of the group of Dermatitis herpetiformis from pemphigus, the separation was nevertheless premature. The differentiations which had been suggested were entirely clinical, and yet did not correspond with the clinical facts. Even if one added to the three cardinal symptoms of Dermatitis herpetiformis propounded by Dr. MacLeod further differentiations—and he was somewhat surprised at the omission from Dr. MacLeod's list of what he regarded as one of the most characteristic features of the disease—namely, the repeated recurrences—one found that each one of these broke down when confronted with a series of cases. It had been a matter of common experience both in this Section and in the earlier societies from which it was derived, that whenever a case was brought forward with the diagnosis of either pemphigus or Dermatitis herpetiformis, there was practically never any general agreement as to which label should be attached to it, and often the numerical division was equal in favour of one or other of these two labels. It had to be conceded, in fact, that there was no unassailable criterion of differentiation, and this being so, there was no clinical convenience, but rather a source of confusion in attempting to maintain a difference. The best course would probably be to drop both the terms in dispute, and to substitute a fresh name which would include all the cases which in any assemblage of experts would certainly be classed either as Dermatitis herpetiformis or as pemphigus. A suitable choice for a new name might be Tilbury Fox's title of "Hydroa pruriginosa," which the speaker agreed, with Kobner, in thinking, at least, a preferable term to Dermatitis herpetiformis for this particular group of cases. On the other hand, a number of cases

had been included under the name of "acute pemphigus" with the group of pemphigus which the speaker did not think should be so included. These were cases of acute infective bullous eruptions, lacking the fundamental characteristic of recurrence, and differing both from Dermatitis herpetiformis and pemphigus in which diseases the vesicle was normally sterile. There was no more reason for classing these bacterial cases with pemphigus than with Dermatitis herpetiformis. The speaker had seen cases which, clinically, had commanded at exhibition at the older societies as general an assent for the diagnosis of Dermatitis herpetiformis as was ever obtainable, and had yet shown bacterial contents of variable nature, and he could recall instances in which streptococcus, pneumococcus, and even the diphtheria bacillus had been demonstrated in the unbroken vesicles of such an eruption.

A classification which would probably include most of the clinical facts would thus be: (1) Erythema multiforme; (2) Hydroa prurigi-nosa; (3) acute bacterial bullous eruptions. The latter group would conveniently take in Impetigo herpetiformis, and the vaccinides. The first group might embrace those difficult cases of presumed Dermatitis herpetiformis in which vesication was minimal in degree or absent. The size of individual bullæ was often made a point of difference, and it was assumed that smallness of these favoured a diagnosis of Dermatitis herpetiformis. He could not agree with this view and had in fact demonstrated its falsity by an experiment. In a case of this disease a single bulla had, with the co-operation of an intelligent nurse and a sporting patient, been so protected from injury by means of cradles that it had been cultivated into a prodigy of a bulla, and had attained the size of an orange before it finally burst. Size was very much a matter of accident and depended on the thickness of the walls and the vulnerability of the site.

Sir Malcolm Morris had suggested that Dermatitis herpetiformis had become less frequent as compared with his earlier experience. It was difficult to comment on this because it was almost impossible to ascertain the individual predilections of reporters for one or other of the two labels. The present speaker had analysed his own records of the past twelve years, and had found notes of thirty-two cases which he had regarded as Dermatitis herpetiformis. Twenty-five of these had occurred at St. Mary's Hospital, in a series of 21,000 cases

of general skin disease between 1902 and 1915. If one compared with these Crocker's statistics, which formed the most useful standard of comparison for the period up to the date of their compilation—*i.e.* before 1893—one found that Crocker had ten cases in 10,000 hospital cases of general skin-disease. From such a comparison it would almost appear that the disease had become more rather than less frequent, but probably to compensate for individual predilections a more effective method of comparison would be to pool all the cases of Dermatitis herpetiformis with those of pemphigus for any given period and to note if the diminution was noticeable in the sum of the two diseases. Crocker certainly would seem to have preferred the pemphigus label, for in the same 10,000 cases he reports thirty-three cases of pemphigus. The speaker, on the other hand, regarded pemphigus as one of the rarest of skin-diseases, when subtraction had been made of the cases which answered the requirements for Dermatitis herpetiformis, and the cases of so-called acute pemphigus —*i.e.* bacterides of variable type.

In the speaker's small personal experience, eosinophilia had been most erratic and uncertain, and he attached no importance to this feature as a means of differentiation; nor could its presence be accepted as any index to the severity of eruption or other symptoms.

The pathogenesis in the large majority of instances seemed to be ascribable to neurotic influences, whether to direct nerve poisons, such as might be assumed to be effective in the case of Herpes zoster, or indirectly through neurotic disorder of intestinal function. The very worst eruption he had ever seen occurred in an Army officer whom he had visited at Colchester in consultation with Dr. Day, which had come out, acutely, four days after the terrible shock which the patient had experienced in the sudden death, while riding, of his only child, a girl aged 12 years.

With regard to treatment, one of the most effective means to control itching was to limit for a term the intake of proteid, and Bulkeley's rice diet was very useful in acute stages of the disease.

The PRESIDENT said that he must admit that when he asked Dr. MacLeod to open a debate on the "pemphigoid" eruptions he had in his mind all primarily and essentially bullous eruptions which could not be clearly attributed to a definite microbic infection—such

as was the case with acute febrile pemphigus, the causal factor of which was the diplococcus of Demme, on which so much good work has been done in this country by Pernet and Bulloch.

In directing his observations almost exclusively to the disease generally known as Dermatitis herpetiformis, Dr. MacLeod had, of course, the supreme authority of Besnier—whose view had been adopted by our own great Colcott Fox—but the speaker could not but think that such a restricted conception was regrettable as not fully representing the great field of their total—or nearly total ignorance—of the whole subject from the ætiological standpoint, on which alone true and sound distinctions must be based.

In the course of his admirable address Dr. MacLeod had, however, practically met this rather academic criticism by touching upon various points in a manner that showed that his definition was more of a working hypothesis than of a confession of scientific faith. Everyone with any experience of dermatology would agree that the three cardinal features usually ascribed to Duhring's or Tilbury Fox's disease were so frequently associated as to constitute a very definite morbid picture recognisable to all as a definite clinical entity, and he held that it would be a retrograde step to abandon the generally adopted modern acceptance of this conception. He was able to endorse Sir Malcolm Morris's view that well-defined cases of classical type were certainly more frequent twenty years ago than they are now, and incidentally the President shared his opinion that they were and probably would be again common during these times of national stress as they had been during the Boer War. But of late years, both in hospital and private work he had certainly seen more cases which it had been impossible for him to classify—that was, cases in which the borderland between Dermatitis herpetiformis and other forms of non-microbic pemphigoids was transgressed in various directions.

There could be, he thought, no doubt that the name of Dermatitis herpetiformis had been bandied about far too indiscriminately, and he confessed to a certain amount of innocent merriment at frequently having seen at meetings such as this some cases pronounced by one authority to be typical cases of Dermatitis herpetiformis and by another equally well accredited observer as characteristic pemphigus. For his own part, he knew typical Dermatitis herpetiformis by sight; he did not know typical pemphigus.

This discrepancy of opinion had been most frequently manifested in cases of pemphigoids occurring in children, and he shared the view of Dr. MacLeod and other speakers, that many of these, which constituted the artificial group of "Hydroa puerorum" (or rather Herpetiformis infantum), were really vesicating urticarias.

The intensity of itching which accompanied the most typical cases of Dermatitis herpetiformis varied within very wide limits, the agony so graphically described by Sir Malcolm Morris representing the extreme severity. But in many distinct cases itching might be trivial. He had never seen a case in which actual pain, as emphasised by Brocq, had been a prominent feature.

He looked upon the prognosis of Dermatitis herpetiformis as attended by much greater gravity than was usually attributed to it. In the debate held in 1897 he recorded two deaths: one in a lady, aged over 70 years, who died of exhaustion from a universal bullous pemphigus, although the initial lesions were those of true Dermatitis herpetiformis; the other in a woman who had suffered many years from Hydroa gestationis and who died of perforation of the intestine. Within the last year he had seen a precisely similar occurrence in a man, aged 58 years, whose primary lesions were mistaken for Herpes zoster by an extremely competent physician; when he came under his observation he was as typical a Dermatitis herpetiformis as fancy could picture, but his lesions became equally typical pemphigus and involved the mucous membrane apparently from mouth to anus only during the last month of his life. He died of perforation of the intestine after an illness lasting only a little more than four months. There was no autopsy, but the cause of death was testified to by an authoritative physician.

The other fatal case he had seen within the last year occurred in a middle-aged lady, a well-known artist, whose typically Dermatitis herpetiformis lesions became markedly vegetative, and her disease proved fatal in six months, but he had no knowledge of the immediate cause of death.

One case common to Dr. Whitfield and himself in hospital practice presented at times fairly typical Dermatitis herpetiformis, but at others her lesions, in their general characters, distribution, etc., were equally typical of Pemphigus vegetans. There seemed now to be a consensus of opinion that eosinophilia was of little value as differen-

tiating Dermatitis herpetiformis from other pemphigoids; but on two occasions he had, oddly enough, found its absence of assistance in convincing dubious practitioners that their cases were examples of Dermatitis artefacta and not of the condition the Section was discussing. In one of these cases the simulation of the disease, assisted by poulticing and other ill-selected procedures in a nursing home, was extraordinarily successful.

Dr. MacLeod had, he thought, made a point of importance in saying that mild cases of Dermatitis herpetiformis were often mistaken for eczema. In his experience the error was of frequent occurrence, but unfortunately its rectification brought little relief to the patient and as little satisfaction to the attendant physician.

On the subject of the pathogenesis of the pemphigoid eruptions he was inclined to entertain novel ideas, although he admitted the supreme importance of shock as a factor, but probably as an indirect one. He thought he had considerable evidence that many cases, he did not say all, were due to autogenous toxins originating in the alimentary canal. The evidence he possessed was certainly clearest in cases approaching the vesicating urticarial type; but he had notes of a few typical ones occurring in persons suffering from so-called colitis, in which each successive outbreak of true Dermatitis herpetiformis had been preceded or accompanied by emphatic aggravation of their gastro-enteric disturbance, almost invariably accompanied by peculiarly fœtid stools, and in which a course of treatment by injections of autogenous *Bacillus coli* vaccines in conjunction, of course, with other appropriate general and local measures had yielded results of the most encouraging nature.

Mr. Willmott Evans said that there were only two points which he wanted to mention, the first being the question as to whether there was such a disease as Dermatitis herpetiformis. There were certainly typical cases which corresponded with the classical description, cases which were perfectly distinct in appearance and character from pemphigus. And there were cases which completely filled up the interval which was held to separate the two diseases; so that it was very difficult to draw a sharp line between them. He regarded the conditions under these names as two extremes of what was probably the same disease, though that did not mean he considered Dermatitis

herpetiformis was always due to a single cause. Probably most of the cases were toxic in origin. He would not like to say that none were infective, though by that he did not mean they were due to local infection by micro-organisms. He thought it likely that some internal blood infection was responsible for the skin lesions, either directly or through the nervous system. Secondly, with regard to treatment, all who had had experience of the disease recognised that arsenic was of extreme value in many cases; in fact, it seemed to be almost the only drug which would give a measure of comfort to these patients. There was, however, another drug, not mentioned by any previous speaker, which he considered of equal value, and that was antimony, which might either be alternated with arsenic or combined with it; 3 minims of the vinum antimoniale might be given, and it might be increased to 10 to 15 minims if the patient was kept in bed, without producing any harmful effects; yet it had a marked influence on the disease, especially in allaying the itching.

Dr. S. E. Dore said that he had noticed a statement recently, in one of the American journals, that Dr. Duhring himself had seen only twenty cases of Dermatitis herpetiformis in fifteen years. If that were so, Dr. Graham Little was to be congratulated on having seen thirty cases, and it is not to be wondered at that some of them were hampered in this discussion by the small number of cases they had had the opportunity of observing. As far as his small experience went, Dermatitis herpetiformis was more common in private than in hospital practice, and this fact, taken with others, might point to a neurotic origin of the disease. He was particularly interested in Dr. MacLeod's reference to the occasional association of Dermatitis herpetiformis with Herpes zoster, and thought it possible that as Herpes zoster was due to a gross lesion of the posterior root ganglia, so Dermatitis herpetiformis might be due to an undiscovered microscopic lesion of peripheral nerves or nerve-endings. Another interesting fact was that Dermatitis herpetiformis could, in some cases, be controlled by exact doses of arsenic. He had had the opportunity of observing a case of Dr. Pringle's in the out-patient department at Middlesex Hospital, in which the patient, a young man, had severe Dermatitis herpetiformis, and whose eruption was controlled by doses of 15 minims of arsenic, smaller doses being immediately followed by

an outbreak of the eruption. There were, in medicine, many parallel cases of diseases being controlled by drugs, such as epilepsy by bromides, myxœdema by thyroid substance ; and although there were other explanations of this action, it was possible to conceive that there might be a deficient secretion in patients with Dermatitis herpetiformis, the production of which was stimulated by the administration of arsenic. A point upon which he thought inefficient stress had been laid in differentiating Dermatitis herpetiformis from pemphigus was the maintenance of good general health in the subjects of the former disease. They were weakly and neurotic, but were usually able to get about and do their ordinary work ; whereas the subjects of pemphigus were often bedridden and showed symptoms of severe systemic infection.

Dr. F. Parkes Weber said that, granting the existence of Dermatitis herpetiformis as a disease, he would like to ask whether they could recognise any local conditions which might be regarded as minor forms of the disease. He would first allude to the conditions which had been described as recurrent Herpes zoster, or as rare varieties of catarrhal herpes. He had become acquainted with a few such cases in women, and possibly the attacks, which might go on occasionally recurring for years, in the gluteal region, for instance, might be regarded as constituting a minor and localised form of Dermatitis herpetiformis. In May 1907, he saw a woman, aged 63 years, of a rather nervous type, who had marks on the right gluteal region which resembled the remains of a mild attack of Herpes zoster. She said she was subject to such (herpes-like) attacks, which were always localised on the right gluteal region. Her first attack had occurred about thirty years previously after a severe illness (diphtheria). At one time, however, she had remained free from the attacks for several years. The eruption was usually preceded by neuralgic pains, chiefly in the right leg, but not in the buttock itself. The eruption usually lasted a few days and formed scabs. A woman, aged 57 years, whom he saw in July 1907, had a patch of herpes on about the middle of the right buttock, and she told him that she had had a similar patch in the same position in July 1906. A delicate-looking woman of nervous type, aged 46 years, whom he saw in August 1909, had three herpes-like groups about the centre of the left buttock. She had had similar attacks

resembling Herpes zoster on the left buttock and left leg, once two years previously in London and once six years previously in Italy. On each occasion he believed the eruption lasted about three weeks. He had heard privately of cases of recurrent eruptions resembling herpes, of various distribution. A young medical friend of his had told him that he was liable to a vesicular herpes-like eruption on both hands (ulnar distribution), which tended to occur about August. Many recorded cases of apparently "recurrent Herpes zoster" were referred to in an annotation in the *Lancet*, April 12th, 1902, p. 1050. In his paper on "Recurrent Herpes of the Buttock,"* Dr. H. G. Adamson regarded the cases he referred to as belonging to the catarrhal or febrile class of herpes rather than to true Herpes zoster, and to the same group he assigned certain cases of herpes of the fingers.† Amongst other papers on recurrent herpes of the buttocks and various parts of the body are those by Dubreuilh and Dorso (1901), Dubreuilh (1905 and 1907), E. Delabost (1909), and Leclerc and Colombet (1909). In his paper on "Menstrual Eruptions,"‡ Paul Opel referred to various cases of recurrent gluteal herpes, etc.

Another class of case was that already referred to by Dr. W. K. Sibley—namely, "recurrent neurotic ulcers of the mouth." He had seen one or two cases himself and could confirm Dr. Sibley's description of that condition. Besides Sibley's writings on the subject he had come across an excellent account by Löblowitz.§

Thirdly, the minor forms of recurrent summer eruption affecting the back of the hands, and known as so-called "summer prurigo" or "summer acne," might be mentioned in this connection. Although such eruptions were often slight, they might worry the patients considerably.

With regard to arsenic, Dr. Weber had seen it produce typical Herpes zoster on the right side of the chest, together with a generalised vesicular eruption of the trunk when it was being given to a patient for Hodgkin's disease.‖ He could therefore quite well believe

* *Brit. Journ. Derm.*, 1911, xxiii, p. 322.

† *Brit. Journ. Derm.*, 1909, xxi, p. 323.

‡ *Derm. Zeitschr.*, Berlin, 1908, xv, p. 91.

§ *Arch. f. Derm. u. Syph.*, 1910, cii, p. 191.

‖ *See* F. P. Weber, "The Occurrence of Acute Pneumonia during Treatment with Arsenic," *Brit. Med. Journ.*, February 15th, 1913, p. 337 (Case II).

that arsenic might have been regarded as capable of producing a kind of Dermatitis herpetiformis.

Dr. A. E. Stansfeld said that he would like to make one remark with regard to eosinophilia. Speaking from a general pathological experience, eosinophilia was a feature of a number of diseases; it was common in asthma and in infection by animal parasites, in bullous eruptions and in some cases of urticaria. But his experience was that it was very inconstant in those conditions, even in such a well-defined disease as echinococcus infection. Therefore he thought one would hardly be justified in attaching much importance to it in *defining* a particular disease.

Dr. MacLeod, in reply, thanked the President and Sir Malcolm Morris for their kind remarks with regard to the opening paper, and the other members of the Section for their valuable contributions to the discussion.

Sir Malcolm Morris had drawn attention to a most important point in connection with the diagnosis of Dermatitis herpetiformis—namely, that the vesicles are usually deeply seated. This feature has been observed from time to time in the clinical descriptions, and corroborated by several writers on the histo-pathology who have found that the vesicles were situated not in the epidermis itself—as in eczema—but more often immediately beneath it, with the whole of the epidermis for a roof.

Dr. George Pernet had taken exception to the term "pemphigoid," and with this criticism the speaker was in complete agreement. It seemed to him that there were few terms ending in "oid" which were satisfactory, and that it would be no great loss to medical literature if they disappeared; still, the term had been employed in a restricted sense by Besnier, Colcott Fox, and others, and on their authority had now come to be recognised as referring to that type of case which at the present time was most commonly placed under Duhring's heading of "Dermatitis herpetiformis." With regard to Dr. Pernet's opinion that the eruptions classified under this heading were not due to one cause and were not variants of one morbid entity, as the cause is at present unknown there is no answer to the first of these views, but the

speaker is of opinion that in the present state of our knowledge, the clinical features of the eruption suggest a common morbid process, and that the differences met with in them can be most easily explained as variations in degree of intensity in one type of cutaneous reaction, which may be modified by secondary considerations such as traumatism, the inoculation of micro-organisms, and the peculiarities of the affected skin.

Dr. Sibley believed that the complaint was a tropho-neurotic condition, and in corroboration of this view referred to the cases in pregnant women. The speaker did not consider that the ætiological connection between pregnancy and this class of eruption necessarily proved a tropho-neurotic origin, as the relation might be equally well explained on the ground of a toxæmia probably acting indirectly on the skin through the nervous system. With regard to the employment of morphia in cases of this type, the speaker had not recommended it; he had simply referred to it among other drugs which had been occasionally used with reported benefit. He had recently seen in consultation an old-standing case of Dermatitis herpetiformis, associated with the most intense subjective symptoms, amounting at times to pain. The patient, a lady, had been confined to bed for several weeks on account of the severity of the attack, and was much reduced and in a seriously neurotic condition from want of sleep; in consequence he had recommended large doses of salicin. About a fortnight later he had seen the practitioner in charge of the case, a most reliable observer, who reported that she had obtained no benefit from the salicin, but that on his own responsibility he had given a hypodermic of morphia which had resulted in a considerable improvement which had been maintained. He was quite in agreement with Dr. Sibley that the employment of morphia as a routine treatment in such cases was strongly to be deprecated, but considered that its occasional use under proper medical supervision might be advisable should the severity of the symptoms demand powerful measures.

Dr. Stowers, in discussing the relation of eosinophilia to Dermatitis herpetiformis, referred to the statement that eosinophiles are abnormally abundant in some cases of leprosy. This has not been the speaker's experience, and he is inclined to think that the increase is due to some individual peculiarity, and is not in any way a constant feature or significant of the disease. With regard to the sex-incidence

of Dermatitis herpetiformis, the cases analysed had shown the disease to be equally common in males and females. Dr. Stowers had misunderstood the speaker, as the figures referred to by Dr. Stowers should read "of the twenty-four cases reported by Maynet, seventeen were in males and seven in females." There is some doubt, however, about those cases, as they occurred in children, and the speaker is in agreement with Dr. Adamson that the majority of the cases which have been described as Dermatitis herpetiformis in children were really examples of chronic pemphigus.

With regard to Dr. Whitfield's protest against the idea that all cases of pemphigus which were pruritic were in reality Dermatitis herpetiformis, the speaker was inclined to adhere to the opinion that, in the present state of our knowledge, the occurrence of intense itching should be regarded as pathognomonic of Dermatitis herpetiformis in differentiating it from chronic pemphigus. He agreed with Dr. Whitfield, however, that the presence of eosinophilia and the therapeutic reaction with arsenic were of no value in diagnosing it from that affection.

In reply to Dr. Little's criticism of the omission of recurrences as a cardinal feature of the eruption, the speaker had done this purposely, as it was also a characteristic of chronic pemphigus, which he believed to be a different disease, but he had referred to it in his note on the course of the affection. He did not think that the classification suggested by Dr. Little was adequate, as according to it chronic pemphigus and Dermatitis herpetiformis were included together under Tilbury Fox's old name of Hydroa pruriginosa, his objection being that in the papular type of Dermatitis herpetiformis the name "hydroa" was inappropriate, while in his experience chronic pemphigus was not pruriginous. He also considered that the grouping of the two affections under one heading was a retrogression rather than an advance. He was at one with Dr. Little in attaching no importance to eosinophilia either as a means of differentiation or as an index of the severity of the symptoms.

He did not agree with Mr. Willmott Evans that the occurrence of intermediate cases which seemed to form connecting links between chronic pemphigus and Dermatitis herpetiformis could be taken as sufficient evidence that they were not two diseases, any more than that the cases of seborrhœic dermatitis which were difficult to diagnose

from psoriasis proved, as has been asserted, that psoriasis and seborrhœic dermatitis were variants of the same affection.

He had not had the same experience as Dr. Dore that Dermatitis herpetiformis was more common in private than in hospital practice, and believed that any apparent preponderance might be due to private patients seeking advice more readily for mild degrees of it than patients of the hospital class.

Dr. Parkes Weber had drawn attention to the cases of so-called recurrent Herpes zoster. These the speaker did not regard as minor forms of Dermatitis herpetiformis, but believed them to belong to the class Herpes febrilis. The recurrent ulcers of the mouth referred to by Dr. Sibley and Dr. Parkes Weber he also believed to be unconnected with Dermatitis herpetiformis and more nearly related to febrile herpes, and possibly caused reflexly in some instances by a disturbance of the gastric mucosa.

In his remarks the President had referred to the too indiscriminate employment of the diagnosis of Dermatitis herpetiformis, and with this the speaker was in entire agreement, as he had from time to time seen cases exhibited under that heading which did not present the cardinal features as described by Tilbury Fox and later by Duhring. He had also pertinently pointed out that certain mild cases were liable to be missed and placed under the heading of eczema. The speaker was also in agreement with the President in regard to an autogenous toxæmia as a most important factor in the pathogenesis, and was much interested in his reference to the cases in which the disease had been associated with some form of gastro-enteric disturbance.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held June 17th, 1915, Dr. J. J. Pringle, President of the Section, in the chair.

Dr. E. G. Graham Little showed a case of *Mycosis fungoides following upon X-ray treatment*. The patient was a lady, aged 25 years. For three years she had suffered from a scaly eruption of the limbs

and trunk, rather more plentifully distributed on the flexor surfaces, which had been diagnosed as psoriasis by several general practitioners. Various treatments had been applied, including chrysarobin, but without permanent success. Itching had not been a marked feature prior to the application of X-rays, which had apparently effected a remarkable change in the conditions. This treatment had been commenced in the middle of February of this year by a general practitioner in north London, who had given exposures over the whole surface of the body, in dosages which could not be ascertained, at intervals of a week or fortnight, the actual dates being February 16th and 23rd, March 9th and 23rd, April 6th, 20th, and 27th, May 4th, 11th, and 19th. During the course of this treatment, but not before it was undertaken, glandular enlargements in the axilla, on the trunk 3 in. below the axilla, in the neck and in the groin were noted. It was deemed advisable to apply extra doses to these swellings, but as they increased in size and a tumour appeared in the pubic region, the patient consulted Dr. Godfrey, of Finchley, under whose care she had been some time previous to the application of X-rays, and the exhibitor saw the patient in consultation with Dr. Godfrey on May 26th, when the diagnosis of Mycosis fungoides was proposed. At this date there was a tumour the size of a small walnut on the right side of the mons veneris, with unbroken surface, and another much smaller swelling, the size of a Barcelona nut, on the anterior wall of the left axilla. On the neck, the upper arms, the chest and abdomen, there were some circinate scaly patches, very reddened and infiltrated, and bearing signs of intense itching. The scalp was extremely scurfy all over. The face was puffy and red, and there was a general redness over the greater part of the body, which, as it had not been present before application of the X-rays, was ascribed to this cause. The entire surface was tender, so that combing the hair, for example, was a painful operation, and the patient found difficulty in obtaining comfort in any posture, and her sleep was disturbed. She was seen again on June 15th, when all these symptoms were accentuated, and the tumour in the wall of the axilla had grown to the size of a tangerine orange, but was still unbroken; a new tumour which had reached the size of a walnut had made its appearance on the back of the neck, and there were some small new tumours elsewhere. The patient was menstruating and did not wish to show the pubic tumour,

which it was reported was steadily growing larger. There was general enlargement of glands.

It was, of course, open to doubt the diagnosis of psoriasis, and it was, in fact, probable that the earlier manifestations of disease, which had been regarded as psoriatic, had been really premycotic stages of Mycosis fungoides. Howard Fox had, however, reported an instance of development of Mycosis fungoides in an undoubted psoriasis, so that the metamorphosis was not unprecedented. But the interest of this case was enhanced by the very definite history vouched for by a practitioner of great experience, Dr. Godfrey, that there had been no glandular or other swellings until the application of the rays, and it seemed significant that the tumours had in fact appeared in areas where additional dosages of the rays had been given. Under these circumstances, which were sufficiently disconcerting, the exhibitor had not thought it wise to recommend the continuance of X-ray treatment, which might otherwise be one's first resource in such a case.

The general consensus of opinion expressed at the recent debate on Mycosis fungoides seemed to be that X-rays were palliative rather than curative of the disease; Galloway had voiced a very general opinion in his summing up: "Considerable doubts evidently remain as to the possibility of cure by means of X-rays. There was no doubt that cases had recurred after the use of X-rays. Possibly the safest line in X-ray treatment was to confine it to the destruction of the actual tumours as they appeared."* In this case the greatest growth had been in parts treated with the rays, so that even the very limited use recommended by Galloway seemed undesirable.

The PRESIDENT did not think that, on the whole, the original diagnosis of psoriasis held good. Among other points, the lesions were almost entirely flexural in distribution, while the tips of the elbows and the knees were markedly unaffected. He was personally of the opinion that the early eruption was a so-called "pre-myosic" one. He invited an expression of opinion as to the *rôle* played by X-rays in the production of the tumours, which he believed to be *nil*; and, arising out of that, the question occurred whether the continuation of treatment by X-rays would be justifiable. The number of the tumours and the extensive erythrodermia seemed to him to contra-indicate operation. He would expressly exonerate the practitioner from any blame for using X-rays in the case, and, indeed, he regarded such treatment as the only possible means of arresting or mitigating the severity of the disease.

Dr. SIBLEY said the wording of the title of the case gave the impression that

* *Proceedings*, 1914, vii. pp. 215, 216.

Dr. Little considered the X-rays to have been the cause of the Mycosis fungoides. He (the speaker) would suggest that the X-rays were a coincidence and that the patient had had a pre-mycotic dermatitis, for she said the rash had been very irritable for many months and was on the flexor surfaces: it had not been psoriasis. He did not consider she now had any evidence of X-ray dermatitis; the inflammation was fairly evenly distributed and never localised. He advised pushing doses of X-rays to the tumour areas.

Dr. G. Pernet had no doubt as to the case being one of Mycosis fungoides. The fact that the tumours had developed after the application of X-rays he regarded as an accidental circumstance, not as a sequence of cause and effect. It was evidently a virulent case, as the tumours were forming rapidly. He recommended pushing the rays as practically the only method of treatment. He did not recommend salvarsan, as it was not successful in a somewhat similar case of his own. He thought it would be a help first of all to remove the tumours surgically.

Dr. Dore said it was difficult to explain the apparent failure of the X-rays unless one knew the details of the treatment. His view was that the tumours had appeared not because of, but in spite of the X-rays; and he thought it would be a pity to withhold the most efficacious form of treatment known for this disease.

Dr. Sequeira agreed that this was a fortuitous outbreak; he did not regard it as connected with the application of the X-ray. He also recommended the pushing of X-ray treatment.

Dr. Adamson said that he would continue the X-ray application as that treatment was the only one which offered any hope of a cure. But he thought it would be well to ascertain first of all what doses of rays had already been given.

Dr. Graham Little, in reply, thanked members for their views, but the impression was so strong in the mind of the patient that the rays were the cause of the tumours that any untoward progress would be attributed to the rays; hence he did not feel inclined to follow the advice tendered.

Dr. E. Laming Evans (introduced by Dr. P. S. Abraham) showed a case of *acute Striæ atrophicæ*. The patient, aged 19 years, was a soldier who was wounded by a rifle grenade in France on March 12th last. He was admitted into the Orthopædic Hospital on April 12th with two discharging sinuses below and external to the left nipple. He was radiographed a few days later, and on April 17th an operation was performed, a piece of metal being extracted from the lower sinus. The wounds made satisfactory progress. The patient was allowed up, but about five days later—*i. e.* May 25th—he began to complain of severe headache, and was therefore sent back to bed with a temperature of 100° F. There were no physical signs in the chest, abdomen, or central nervous system to account for his headache, but

within a few days of his return to bed curious skin lesions made their appearance on the posterior aspect of the right lower chest and lumbar regions, and to the left of the mid-line in the lumbo-sacral region. The lesions consisted of areas of localised atrophy of skin running mostly horizontally, the floor of each area being pink with fine vessels like scar-tissue; they strongly resembled Striæ gravidarum. The patient complained of pain in the region of their distribution. The atrophic areas all appeared within two or three days, and after that no fresh lesions were observed. Headaches persisted for about a fortnight, and the temperature varied between normal and 101·2° F. during this time, the lesions meanwhile becoming much paler. The blood showed moderate leucocytosis; Widal's reaction and the Wassermann reaction were negative. The urine was normal. The patient had always had very good health, and gave no history of any serious illness.

The PRESIDENT thought the lesions would be more correctly described as Lineæ atrophicæ. In true acute atrophodermia there were extensive areas of atrophy of skin or striæ, preceded by redness or patches, the nature of which it was usually impossible to determine. The severest case of the kind exhibited he had ever seen was in a middle-aged man who seemed otherwise in perfect health, but was neurasthenic and somewhat hysterical. He had not had typhoid fever, nor any ascertainable toxæmia. He had the condition to an extreme degree over his trunk, thighs, buttocks, and shoulders, but it was not connected with sudden disappearance of fat or any pre-existent stretching of the skin.

Dr. H. G. ADAMSON thought it a typical case of Striæ atrophicæ, though the distribution was unusual.

Dr. F. PARKES WEBER said he considered this to be anatomically an absolutely typical case of "Striæ atrophicæ," or, as some preferred to call, "Lineæ atrophicæ." In most cases the condition was the result of distension of the skin by œdema or fat, but in the present case the ætiology was obscure, and the distribution was nearly unilateral, affecting the thoracic and lumbar regions of one side. He had seen two such cases in which the Striæ atrophicæ were quite or mainly unilateral, but in both there was intrathoracic disease present. Dr. H. D. Rolleston* published an illustration of a case in which the Striæ atrophicæ (more numerous on one side than on the other) were associated with malignant disease of the pleuræ and peritoneum. In regard to Dr. Adamson's remarks he did not think there was any connection between Striæ atrophicæ and macular atrophy of the skin; he regarded them as totally different states, so much so that, if the two were seen in the same patient, he would regard the association as a chance coincidence. He suggested that in the present case the almost

* H. D. Rolleston, "Case of Remarkable Striæ Atrophicæ due to Cachexia," *Brit. Med. Journ.*, 1908, i, p. 494.

unilateral distribution of the striæ might be accounted for. The patient had had a severe wound with fever and constitutional symptoms, which, like typhoid fever and pneumonia and cachetic conditions in general, in some unknown way favoured the development of cutaneous Striæ atrophicæ. The position of the patient in bed probably determined the localisation of the striæ by rendering the skin more tense on one side than on the other.

Dr. Graham Little said this case was very much like one he showed at the Society* in a schoolboy from Haileybury, whose attack came on after mumps. He had striæ in much the same position, only lower down and on both sides; the condition came on acutely.

Dr. P. S. Abraham said that Mr. Laming Evans kindly asked him to see this case a few days after the lesions appeared. "Lineæ" or "Striæ atrophica" were, of course, usually the result of some abnormal distension or stretching of the skin during pregnancy or after a fatty or other growth beneath the skin—they were, in fact, "symptomatic." Nothing of the kind, however, took place in this case; the atrophic lines were "idiopathic." Acute cases of the kind were extremely rare on the back, and very few had been so far recorded. The case most resembling the present one was described in the *British Journal of Dermatology* in 1891, by Dr. Barrs, of Leeds, the condition following an attack of pneumonia, and the striæ appearing in the lumbar region and being accompanied with considerable pain. Several others had been seen after typhoid fever—in the emaciated skin of the abdomen, and more often on the thighs. In this case it was difficult to connect the lesions, which were situated in the right dorso-lumbar region, with the shrapnel wound on the left side of the thorax; nor could they put them down to any recent acute constitutional disease. The patient was inoculated against enteric last October. A skiagram of the left side of his chest was taken a month before the condition appeared, but it was not likely that that had anything to do with it. He particularly asked the sister of the ward whether the man was accustomed to lie on that part of the body or to scratch or press upon the skin there with his fingers, and the answer was in the negative.

Dr. David Walsh thought that if that kind of lesion was due to lying for a long time in one position it should be extremely common; he did not, however, remember having seen a case of the kind before. In this case he presumed it was connected with the wound, and probably great violence had been applied to the left ribs. There might be some question of the occurrence of *contre-coup* on the right side, and of the diffused force injuring the nerve terminals or arteries, or nerves or other tissues, and in that way producing a series of subcutaneous scars without definite anatomical distribution.

Dr. P. S. Abraham showed a case of *Oriental sore* (*after treatment*). The patient, a young man, went to the Persian Gulf last October, and in February he observed small sores on his leg and arm, which he attributed to mosquito bites. These increased in size, and he was advised by his friends to consult a native doctor, who applied some powder; but the lesions increased in size and became crusted ulcers. Five weeks ago the one on the leg measured 3½ in. by 2½ in., the

* *Brit. Journ. Derm.*, 1912, p. 70.

other on the arm was slightly smaller; they both had a sinuous outline, and were thickly covered with a dark crust. Dr. Abraham scraped them thoroughly with a spoon, and immediately afterwards applied pure phenol with a brush, a procedure he had adopted with success in a similar case some years ago. Most people who saw this case had an idea that it was syphilitic; but Oriental sore, of course, had nothing to do with syphilis. These sores were due to inoculation with Leishmann-Donovan bodies, probably through some insect or intermediate host. After the operation, he sent the material to the Marcus Beck Laboratory, Royal Society of Medicine, but it was unfortunately lost. The scars left by the lesions were typical; they are slightly depressed, and, as in this case, often pigmented. There was an idea in the East that a single attack prevented a recurrence. The patient informed him that at Busrah the people called them "date sores," as they were particularly common in the date season.

Dr. Abraham had to thank Dr. Sortain Hancock for the opportunity of seeing and treating this case.

Dr. Pernet said that once at Biskra he met an Italian in the street with half a dozen of these lesions on his face, but the patient did not trouble about any treatment. There was a lively description of Bagdad boil in Morier's "Hadji Baba of Ispahan."

Dr. J. A. Nixon showed a case of *universal pigmentation for diagnosis*. The patient was a man, aged 33 years, in whom spontaneous universal pigmentation had developed during the last six years, until, at the present time, the whole body was of a dark brown tint, resembling the skin of a native of India. The man dated his condition from an attack of dyspepsia, with neurasthenic symptoms, six years ago. Immediately afterwards he noticed a gradual bronzing of the skin which was exposed to sunlight; and exposure to the sun always increased the intensity of the pigmentation. During the winter, or whenever he stayed indoors, there was a slight fading. There was also staining of the mucous membrane of the cheeks and tongue. At present there were no other signs of disease about him; no syncopal attacks nor asthenia, and no loss of weight. The exhibitor associated the condition with an attack of acute dyspepsia. Possibly at that time there was an inflammatory lesion which involved the region of the suprarenals and the solar plexus.

Dr. Sequeira said that in 1910 he showed a man, aged 30 years, suffering from melanodermia, closely resembling the condition of Dr. Nixon's patient.* The interest of the case lay in the fact that the blood was typical of pernicious anæmia. The patient was extremely wasted, and lost all his hair and nails. The skin itched intensely and blebs formed. Blood examination showed that only 1,135,000 erythrocytes, and poikilocytes, normoblasts and megaloblasts were present. The section would be interested to know that under injections of arsacetin the condition of the blood gradually improved, and ultimately the red cells increased to the number of 6,000,000. The patient had been seen recently and was now quite well. The pigmentation had disappeared and the hair was well grown. In reply to Dr. Parkes Weber, Dr. Sequeira said he had considered his case to be due to adrenal disease. He suggested that Dr. Nixon should make regular examinations of the blood-pressure in his patient and observe the effect of the administration of adrenalin.

Dr. F. Parkes Weber suggested that the illness six years ago was not ordinary dyspepsia, but was a severe affection of the suprarenal capsules, giving rise to vomiting and asthenia, as met with in Addison's disease. Gradually compensation had been developed and the patient had more or less recovered from the most severe and dangerous symptoms of the suprarenal Addison's disease. The most striking symptom of Addison's disease was, however, the pigmentation of the skin and mucous membrane of the mouth. This had progressed to an extraordinary extent in the present case, in spite of the patient's recovery from the graver symptoms (vomiting and asthenia). It was noteworthy that in the most acute forms of Addison's disease pigmentation might be quite or almost absent, though it might gradually develop later on if the patient survived long enough.

Dr. Abraham said that some years ago he was asked to see a somewhat similar case, in an old man, an Englishman, who was even blacker that this patient; he looked more like a negro; the hands and all the upper part of the body were black. (Photograph exhibited). His first view was that the condition was argyriasis, but he could find no evidence of this or of any other disease. With the exception of the discoloration, the man apparently was, and had been, in perfect health. He died a year or two afterwards of bronchitis. Permission for a post-mortem examination could not be obtained.

Dr. Walsh said the picture presented by this case did not at all correspond with Addison's disease in its typical form; reversion to an ancestral type of skin might be considered as an alternative explanation. The pigment in the deep cells of the epidermis possibly pointed to the time when our remote ancestors were black; he had not heard of any other explanation of the presence of pigment in the epidermis. It was admitted that some other skin conditions, such as ichthyosis, might be an expression of atavism.

The President, referring to Dr. Walsh's remarks said that the patient had never had any coloured ancestors; even if he had, their mucous membranes would not have been coloured or pigmented as his were. He had thrown out the suggestion, which he was glad to hear so ably supported by Dr. Parkes Weber, that the case was one of arrested Addison's disease. He had an example of a similar occurrence under his observation at the present time in a man, aged 27 years, who had all the signs and symptoms of unquestionable Addison's disease three

* *Brit. Journ. Derm.*, 1910, xxii, p. 391.

years ago, but these had apparently undergone spontaneous arrest about a year ago. The patient was a Hindu, but the tint of his skin had assumed that of a negro, whilst the pigmentation of his gums and oral mucous membranes was very dark. A course of treatment in recent syphilis by salvarsan and mercury had provoked no fresh symptoms of his original ailment.

Dr. SIBLEY said the man told him he had black gums long before the discoloration of the skin commenced. He evidently had, at one time, or still had, Lichen planus, which had been called shingles, over his back, and there were several typical deeply pigmented lesions of Lichen planus about on other regions. He was not prepared to say this had anything to do with the general pigmentation.

Dr. GEORGE PERNET showed a case of *morphœic scleroderma*. The patient was a girl, aged 14 years. The disease began a year ago on the outer side of the right thigh. When first seen at the West London Hospital in July, 1914, she presented two somewhat sclerosed patches in the above-mentioned situation. They were surrounded by an extensive "lilac" area, where the skin was coarse-grained. Over the corresponding area of the left thigh there was a certain amount of coarse graining of the skin. The disease had progressed on the right side and fresh areas of sclerosis had appeared above the original morphœic patches. Now, too, there were morphœo-sclerosed patches on the left thigh. The treatment had consisted in the administration of thyroid extract internally, and olive oil well rubbed in locally. Notwithstanding this the disease had extended, but over the original area there had been improvement so far as the actual thickening was concerned. The very wide margins of the "lilac" discoloration and the coarse graining of the skin were features of special interest.

Dr. GEORGE PERNET also showed a case of *extra-genital primary syphilis of the wrist*. The patient was a boy, aged 15 years, who first attended, on June 4th, for an extensive characteristic secondary papulo-lenticular rash, with bad ulceration of the throat and typical adenitis. There was no evidence of anything in the shape of a primary lesion about the genitalia. But on the *radial* side of the extensor surface of the right wrist a raised lesion, the size of a sixpence, was noticed. This was indurated, more or less flatly convex, and had resulted from an injury due to a pointed piece of wire (molybdenum wire for electric lamps, the patient said). This had increased in size and festered, and had not responded to any ordinary form of treatment. The injury originally occurred three months

previously, and the rash had been present about a fortnight or more when first seen. This lesion was evidently the primary sore, and, on investigation, the corresponding axillary glands were found to be indurated and much enlarged "*en paquet*." But the right epitrochlear gland was not affected, this being explained by the situation of the primary sore on the *radial* side of the wrist. Had the original sore been on the *ulnar* side, then the corresponding epitrochlear would have been involved. The left axillary glands were slightly enlarged only, and the left epitrochlear was not affected. He was ordered some mercury, and on June 6th he was given 0·15 neo-salvarsan (B. and W.), a small dose, but after the intravenous injection his temperature went up to 104° F. All the symptoms, including the primary sore, had improved when shown on June 17th. As to the source of the infection of the wrist injury, the only thing that could be elicited was that there had been a lodger in the house who had some bad skin trouble. The site of the original injury had not been sucked.

Dr. Alfred Eddowes said he knew the case of a young man in a family who contracted syphilis, and whose father in a few weeks afterwards developed a chancre on the wrist. When asked how he got it, he replied that he caught his wrist on a nail that was projecting from the arm of a chair. The husband conveyed the disease to his wife; so that within a few weeks three members out of a family of four were suffering in the acute stage of syphilis.

Dr. F. Parkes Weber showed a case of *blue tattooing of the skin from hypodermic injections of morphine*. The patient was a woman, aged 67 years, a morphinist, who from the age of 27 to the age of 59 had been accustomed to take morphine, almost entirely by the mouth, up to $8\frac{1}{2}$ gr. *per diem*. She then entirely discontinued taking the drug until after an operation for gall-stones, about four years ago, when she got into the habit of giving herself hypodermic injections of morphine and atropine. Since then she had usually, in the course of every day (twenty-four hours), injected from $1\frac{2}{3}$ gr. to $3\frac{1}{3}$ gr. of morphine sulphate, together with from $\frac{1}{24}$ gr. to $\frac{1}{10}$ gr. of atropine sulphate under the skin of her upper extremities or the upper part of the front of her chest. At the present time the skin of these regions had a stippled appearance from innumerable minute bluish spots, each bluish spot marking the site of a former hypodermic injection.

These bluish spots constituted a kind of tattooing; probably some

iron substance derived from the needle of the hypodermic syringe had on each occasion remained under the skin. Similar bluish spots in the skin of a morphinist (a man) under the care of Dr. Francis Hare were due, as Dr. Hare kindly informed Dr. Weber, to minute carbon particles introduced under the skin with the hypodermic syringe, as the patient had been in the habit of disinfecting the needle of the syringe in the flame of a wax match or of a wooden match. In fact, in that case the bluish spots were due to a genuine blue-black tattooing, since for that the finest quality of "Indian ink" or "Chinese ink" (which consisted of very minute particles of soot or carbon) was, Dr. Weber believed, usually employed. Dr. Hare's patient had been distressed in regard to the presence of the bluish spots, for he regarded them as very "tell-tale," and likely to prevent him from obtaining a desired appointment. In Dr. Weber's case, though the bluish spots exactly resembled those produced by tattooing with carbon particles or "Indian ink," it seemed far more probable that they were produced by minute iron particles from the hypodermic needle, since the patient had always cleaned the needles, she said, by washing them out with hot water, and had never disinfected them in any flame. Similarly, workers in some trades develop blue marks in the skin from the entry of particles of iron.

In addition to the bluish spots the patient had a few little hard fibrous nodules in the subcutaneous tissue, resulting also doubtless from hypodermic injections.

Dr. Weber thought it must be exceedingly rare in Europeans to see typical keloids produced by hypodermic injections of morphine at the site of each injection, but he understood that that not rarely resulted among Chinese morphinists, and Dr. R. Bruce-Low had kindly given him a photograph of a Chinese man, a morphinist, whose upper extremities were covered with keloids, the result of hypodermic injections of morphine. The great tendency of the yellow and black races to develop keloids was remarkable.*

Dr. E. A. Cockayne showed a case of *congenital sclerodermia and sclerodactylia*. F. M—, male, aged 1 year 3 months. First child of

* *Cf.* A. G. Brenizer, "Keloid Formation in the Negro," *Ann. of Surg.*, 1915, lxi, pp. 83–87.

healthy parents. There was no history of a similar condition in the family. The mother was not ill during pregnancy. There had been no miscarriages. Patient was a premature child born at the eighth month; very small at birth. Even at birth the areas of affected skin were as extensive as at the present time, and the fingers could not be straightened. According to the mother's statements the limbs were not swollen. The hair on the scalp was abundant at first but began to fall out at the age of 4 months.

When first seen at the age of 7 months the child was undersized; weight 9 lb. 4 oz. There was hydrocephalus, the head measuring $16\frac{1}{4}$ in. in circumference. The condition of the skin was almost identical with that seen at present. The Wassermann reaction was negative. The child had grown slowly and now weighed 10 lb. 12 oz. The head measurement was $18\frac{1}{4}$ in. In February, a symmetrical increase in thickening on the outer aspect of both thighs took place. The thickening gradually decreased and no other change has been noticed. The scalp was shiny and almost hairless, and the eyebrows and eyelashes had almost disappeared. The skin of the face was thickened and shiny, but the most marked atrophy had occurred over the ears and alæ nasi. The skin of the abdomen and chest was much affected, that of the back and buttocks were normal. The skin of the groins, scrotum, and penis was also unaltered. The skin of the upper arm had escaped, but from the elbow downwards there was marked sclerodermia. The hands showed typical sclerodactylia, the fingers being fixed in a position of flexion. Movement at the wrist joint were restricted. In the legs there was much thickening of the skin over the outer aspect of each thigh; that on the inner aspect was less affected. In the lower part of the leg the whole of the skin was uniformly thickened. The toes were fixed in the "hammer-toe" position. The toe- and finger-nails were atrophic. The finger-nails were growing slowly, but for a long time no growth had been observed in the case of the toe-nails. There was limitation of movement at the ankle- and knee-joints, the latter being incapable of complete extension. There was sweating in the palms of the hands especially.

The child was treated with mercury for six months without effect and for the last month had been taking thyroid extract.

Dr. F. Parkes Weber said the case showed the typical distribution of generalised sclerodermia (with sclerodactylia) of adults; not that of sclerœdema

or Sclerema neonatorum.* The most serious disease in this child was the hydrocephalus. In regard to the generalised sclerodermia, improvement might doubtless occur, as it sometimes did during the hypertrophic stage of the acroteric type of sclerodermia ("acro-sclerodermia") in adults. When, however, the atrophic stage was reached (with contractures of fingers or toes) no improvement was at all likely to take place.

Dr. ADAMSON regarded it as true sclerodermia, and it was in his experience unique at so early an age. He agreed with Dr. Weber that the atrophic part would not recover, but the other might.

Dr. PERNET suggested lumbar puncture might be of some use in the circumstances, considering the hydrocephalus.

The PRESIDENT thought that the undoubtedly congenital existence of the disease might be considered incompatible with the diagnosis of true sclerodermia: and that was his own view despite the close resemblance of the child's condition to that disease. He pointed out that a certain number of cases of Sclerema neonatorum recovered, as this baby was apparently doing.

Dr. G. F. STEBBING showed a *case for diagnosis (summer eruption)*. The patient, a girl, aged 14 years, developed, five years ago, a rash on the hands and face, and it had persisted ever since, with remarkable seasonable variations. Every winter the rash practically disappeared, and every spring it came back again. It was rendered worse by exposure to the sun; vesication and pustulation occurred, and in some places there had been large weeping sores, which took several days to clear up. One or two spots had appeared on the fronts of the legs, but they appeared when she paddled at a convalescent home. The general skin was not hypersensitive, and he could not produce factitious urticaria. The red blood cells were about 6 millions, and of the white cells 50 per cent. were small mononuclears.

Dr. F. PARKES WEBER said that when he saw the patient at the Lambeth Infirmary he had regarded the case as one of a "Dermatitis æstivalis." The case was a very extreme one to be classed as one of "summer prurigo," and yet there were not the vesicles or blebs of "Hydroa æstivalis" present. The question of diagnosis was interesting, as the present case had been at one time supposed to be one of scabies, and at another time pellagra had even been suggested as an alternative possibility. The appearance between the patient's fingers might certainly make one think of scabies, and such a mistaken diagnosis might be further favoured by the patient's complaint of itching when warm in bed at night time.

Dr. ADAMSON said this was a characteristic case of the common disease known

* In sclerema and Sclerœdema neonatorum the patient generally either died or recovered completely. Only in one or two cases of recovery had any patches of atrophic skin been left behind as a permanent result of the disease.

as summer eruption, or Hutchinson's summer prurigo. He had endeavoured to show in an article published some years ago in the *British Journal of Dermatology* that there was no sharp line between this affection and Hydroa æstivale.

The PRESIDENT said he considered the case a fairly characteristic one of the milder type of Hydroa æstivale. His impression was that the disease was commoner in boys than in girls, but his experience was based on the observation of golf caddies, who are much more exposed than most girls to its exciting cause.

Dr. PERNET said the ozœnic odour from the patient's nose suggested a general toxic condition, which might have made the rash more virulent than otherwise would be the case.

Dr. STEBBING replied that the patient came under treatment on account of the condition of her nasopharynx; she was suffering from chronic ethmoiditis.

Dr. DAVID WALSH showed a *case for diagnosis (with microscopical sections)*. The patient, a man, aged 25 years, had a papular rash on the right supra-orbital region, which presented a sheet of confluent pale red papules, with a few satellites, and had existed for two years. It was painless, though there were sometimes a few subjective symptoms. The condition had progressed steadily in spite of all treatment. Two Wassermann reactions were negative, and both autogenous and stock vaccines, also X-rays, had been used. He improved a little, and latterly there had been some small atrophic scars. A biopsy showed hyperplasia of the sebaceous glands, with other changes that could be seen in the microscopic sections submitted therewith. He invited opinions as to diagnosis and treatment. Anti-syphilitic remedies yielded more improvement than anything else, though he had used many kinds of local and general treatment.

Dr. MACLEOD said that he had examined the sections from the case and had noted in them a definite increase of gland tissue and, in addition, small clusters of cells irregularly distributed in the corium. With the high power these clusters were found to be largely made up of plasma cells, with here and there cells with two or three nuclei, but no definite giant cells. The microscopical appearances reminded him of those from a case which he had seen at the Charing Cross Hospital under Dr. Galloway, except that in that case there were a number of giant cell systems. The clinical appearances of clustered capsules which disappeared leaving scars also recalled that case. The speaker considered that the affection belonged to the tuberculide group and was closely related to the cases which had been described by Dr. Crocker under the heading of Acne agminata.

Dr. GRAY said that the sections looked much like those of Acne agminata, a case of which he showed not long ago. The behaviour of the two cases was also similar. In his own case there was some overgrowth of sebaceous gland tissue, and there were giant cells, and he had not seen the latter in the present section.

The PRESIDENT said that Dr. Walsh had courteously sent him the sections

exhibited before the meeting. He verified the existence of hypertrophy of the sebaceous glands, but had been puzzled by the associated collections of cells of inflammatory type. He now remembered distinctly the case brought forward some years ago by Dr. Galloway and Dr. MacLeod, and the clinical features of atrophy and pitting present in it. He did not doubt that the case under discussion belonged to the same category as that referred to by Dr. MacLeod, whom he asked to kindly supply the reference to his case in the *Proceedings*. In his opinion, many cases formerly described as "agminate Adenoma sebaceum" were not of that nature, but identical with Dr. Walsh's most interesting case.

Dr. J. H. Stowers showed a case of *Lichen planus atrophicus, seu Sclerosus, seu Morphoicus*. The patient, a married woman, aged 34 years, was stated to have enjoyed good health until the time of her marriage, nine years ago; but a few weeks later she suffered a nervous breakdown, with much depression, attributed to the sudden death of her father from heart disease. Her health gradually improved, until about six months previous to the birth of her only child (which took place in May, 1908), when about a dozen "spots" were stated to have developed upon the back of the neck. These were said to have been red in colour, flat, smooth, and irritable.

During the year 1913 the patient was again subjected to much domestic anxiety and worry, and in January, 1914, fresh lesions developed symmetrically on the inner aspect of each thigh about 4 in. long by 1½ in. broad, the long diameter corresponding with the axis of the limbs, followed by others upon the hips, the anterior surfaces of the legs below the patellæ, and a few scattered patches on the abdomen immediately below the navel. The mucous membrane of the mouth was uninvolved.

The patient now presented numerous well-marked discrete and confluent patches of nacreous white skin characteristic of the atrophic form of Lichen planus, in the positions indicated the sensation of the patches being much impaired. Special attention was drawn to the conspicuous and almost exact symmetry of the cutaneous lesions corresponding in a marked degree, both in extent and position, with those in another female patient, aged 45 years, previously exhibited, and of which coloured drawings were shown.

Dr. J. H. Stowers also showed a case of *Adenoma sebaceum*. The patient was an unmarried female, aged 20 years, the third of four children, and living with her parents. She was engaged in laundry work. Her general health had always been good, the only illness in

her recollection being measles when a young child. Her mental condition was normal, and there was no history of nervous disorder in any member of the family. The disease commenced to develop when the patient was aged about 8. The lesions, which were very characteristic both in colour and size, involved the whole of the face, the lower forehead, and some parts of the sides of the neck, the vascular tumours being especially numerous, and clustered round and above the alæ of the nose. The small, red, rounded tumours existed in close contiguity over the entire surface of each cheek with marked vascular ramifications and telangiectatic developments.

A remarkable feature of the case was the presence of multiple small fibromata and sebaceous developments of various kinds upon the back and shoulders, which were stated to have appeared several years after the facial eruption had existed and which suggested a casual relationship.

Dr. F. Parkes Weber, discussing the second case, asked whether any members had in other cases ever noticed the association of the telangiectatic form of Adenoma sebaceum on the face with the presence of small molluscous fibromata on the loins. That association constituted a feature of the present case.

The President said he was not familiar with associated lesions which he could identify as definite molluscous fibromata; various sorts of nævoid growths all over the trunk and limbs were generally met with in connection with Adenoma sebaceum.

Dr. E. G. Graham Little showed a case of *Lichen planus linearis*. The patient was a gentleman in business in Wales, aged 51 years, sent to the exhibitor by Dr. Davies, of Tredegar, with the history of an acute development of the eruption at the latter part of February, patches of typical Lichen planus appearing on the inside of the knees, the fronts of the wrists, the front of the legs, and on the prepuce and scrotum. At the same time the linear streak of disease now present, stretching from the middle of the right buttock down the middle inner third of the posterior aspect of the right thigh, undergoing a short interruption of the line just above the popliteal space, then resumed in a thicker line just below this space, coursing over the bulge of the calf, from which it bent towards the inner third of the lower leg, ended on the outer side of the ankle, and in an indeterminate line at the base of the little toe. The mucous membranes were free of disease. The patient had suffered very great bereave-

ments and misfortunes, having in the space of the last two years lost three brothers, a sister, his father, wife, and only child, and having, as a consequence of these events, become burdened with the support of four families.

The case constituted the most perfect example of linear Lichen planus that had come under the notice of the exhibitor. No cause could be ascertained for the peculiar distribution. There had been no injury or pain in the site of chief incidence; where the linear eruption was about ½ in. in width, raised ¼ in. from the surrounding level, and of a deep bluish-red tint, itching was severe.

Dr. E. G. Graham Little also showed a *case for diagnosis. ? Pellagra. ? Addison's Disease.* The patient was a boy, aged 12 years, who came to the Out-patient Department of the East London Hospital for Children the day before. He was born in Poplar, and had lived in the same street in that district since his birth. He had had measles and whooping-cough in early childhood, and, four years ago, had had an operation of ex-circumcision at the same hospital for some difficulties of micturition. He had made a complete recovery, and up to last Christmas was in robust health, as a photograph taken some time prior to that date showed. About this time he began to have headache and vomiting, which persisted for some three weeks continuously, vomiting taking place after each meal. The motions were irregular, usually in the sense of being too frequent. The father was a dock labourer in fairly comfortable circumstances. There were three older children and five younger, and all the others are healthy. Photographs of the three older children were submitted and showed well-built young men—one in the army, another a sailor—and a sister, aged 18 years, plump, and in every respect normal.

Present condition: Since his illness had begun the boy had eaten his food badly, and was now excessively emaciated. His height was 4 ft. 6 in., and his weight only 3 st. 1 lb. 12 oz. He was hardly able to get about and was very quickly tired. The skin was stretched over the bones of the face as on a dried skull, and there was involuntary twitching of the angles of the mouth—the risus sardonicus. No abdominal or visceral disease could be detected after examination by the exhibitor's colleague, Dr. Frew, who had kindly taken the boy into hospital for further investigation.

The condition of the skin: Over the greater part of the body there was a general desquamation and follicular keratosis, with short projecting spines, rather like an abortive Lichen spinulosus, but with no inflammatory redness of the follicles. On the dorsum of the hands, on the neck, especially the nape, on the lower abdomen and genital area and upper part of the thighs there was deep walnut-hued pigmentation of the skin, which was smooth over the hands and neck, but especially spiny over the abdomen and thighs. There was no pigmentation of the mucous membranes.

Dr. F. Parkes Weber thought that Addison's disease was a more likely diagnosis in this case than was native English pellagra. For the acceptance of the former diagnosis it was unnecessary to find evidence of tubercle elsewhere in the body. Not all cases of Addison's disease were due to tuberculosis of the suprarenal glands. Some, for instance, might be due to an acute toxic atrophy of a large part of these organs. Though Addison's disease was very rare in children, when it did occur in children it seemed generally to commence between the ages of ten and thirteen. He had, unfortunately, not seen the follicular affection of the skin of the patient's trunk, but that was possibly a condition quite independent of the cutaneous pigmentation.

Dr. Graham Little, in reply, said the suggestion as to tuberculosis was to explain the diarrhœa. With regard to the suggestion as to Addison's disease, Dr. Frew, whose opinion was a very sound one, said he had never known a case of that disease occurring so early in life.

Dr. S. E. Dore showed a case of *Lichen spinulosus and Folliculitis decalvans*. The patient, a woman, aged 43 years, was sent to his department at Westminster Hospital by Dr. Kinnier Wilson. The case bore a rather close resemblance to one shown by Dr. Graham Little at the April Meeting of the Section. In Dr. Little's case, which he called "Folliculitis decalvans et atrophicans," there was loss of hair from the axilla and pubes, as well as the scalp. The present patient had had characteristic Folliculitis decalvans of the scalp for two years. There were several small circular and irregular-shaped atrophic patches in the occipital region, in the frontal region, and several large ones in other parts of the scalp. The patches were smooth, shiny, and slightly depressed, encroaching on the healthy hair, by means of convex, bay-like processes, and there was no sign of perifollicular inflammation. For nine weeks she had had a follicular eruption indistinguishable from Lichen spinulosus on the abdomen, back, chest, thighs, neck, and ears. The eruption con-

sisted chiefly of minute, scattered, skin-coloured, acuminate, or spiny non-inflammatory papules, but a few were larger and reddened, or excoriated. The patient had suffered from thread-worms since childhood, and attributed the thread-like lesions to the worms "coming out."

Dr. Graham Little said he thought the difference between his case and the present one lay in the fact that the axillæ in the present patient were normal The most curious feature in his own case was that the hair in both axillæ and pubes was destroyed. His patient also had Lichen spinulosus, but it was a more definitely spiny condition than was the case here. In the present patient, taking into consideration the physique, he thought the spiny eruption was a coincident Lichen scrofulosorum. He hoped Dr. Dore would have the tuberculin test made.

Dr. Adamson said that the scalp condition was Folliculitis decalvans, and that all one could say about the eruption on the trunk was that it was folliculitis. It was interesting to compare this case with that shown by Dr. Graham Little at the last meeting, and he thought it possible that in Folliculitis decalvans folliculitis would be more often found on the body if looked for.

Dr. MacLeod agreed with the diagnosis of Folliculitis decalvans.

Dr. Alfred Eddowes showed a case of *Lichen planus (circinate and atrophic), with microscopical section.* The patient was a female, aged 30 years, who had been suffering from the disease for the past year. Two or three months ago the rings were not very distinct, but lately the diagnosis had become easy because fresh lesions had appeared which were obviously Lichen planus. She complained of intense irritation. The exhibitor would be glad of any suggestion for treatment likely to accelerate recovery. The lesion that first appeared much resembled papular squamous circinate syphilides. Wassermann's reaction was negative, and there was no evidence of syphilis. The irritation might have been aggravated owing to the fact of the lesions on the feet being liable to friction, and of their situation among varicose veins.

The President suggested the use of X-rays to allay the irritation.

Dr. J. H. Sequeira showed a case of *Pityriasis rubra pilaris.* The patient, a married woman aged 21 years, had been under Dr. Sequeira's care in 1910 suffering from Pityriasis rubra pilaris. She got quite well, and remained so until the end of April, 1915. She was admitted to the London Hospital on June 12th, 1915, with a widely spread eruption, mainly of the diffuse type (erythrodermia). The scalp was scaly, and the face, neck, shoulders, abdomen and

upper extremities were of a brick-red colour, the surface covered with fine adherent scales. On the upper part of the back the eruption had similar characters. On the breasts and on the lower part of the back and thighs the lesions were discrete, closely set pink papules, with caps of fine adherent scales. The legs below the knees and the feet were free. The nails were unaffected. There was no evidence of visceral disease.

CURRENT LITERATURE.

A CASE OF GENERALIZED CONGENITAL KERATODERMA. Frederick S. Burns. (*Journ. of Cut. Dis.*, 1915, xxxiii, p. 255.)

Under the heading of generalized congenital keratoderma the writer has described a case which presents certain peculiarities which warrant its being given a special name rather than included under the generic term "ichthyosis."

The patient was a boy, aged 16 years, partially blind and totally deaf, who presented a mild generalized xerodermia associated with keratotic patches on the flexures of the knees, feet, hands, and face. In certain situations, such as the back of the neck, there was a Keratosis follicularis with horny spines. The hair of the scalp was dry and thinned in irregular areas, and disseminated over it were spine-like keratotic lesions. Except on the scalp, hair was everywhere absent, and there was pronounced dystrophy of the nails. Continuous with the involvement of the nose and orbicular regions, the lips, buccal and nasal mucous membranes presented a superficial thickening resembling leukoplakia. The cornea of both eyes were thickened and had a stippled appearance from punctate depressions, while hypertrophic blood-vessels surrounded the borders and sent branches over the surface. These abnormalities gave the eyes a semi-opaque appearance and produced blurring of the vision.

The deafness was due to a thickening and congestion of the membrana tympani.

The affection was first noticed when the boy was about a year old and had steadily increased until he was ten years of age. There was no history of ichthyosis in any other member of the family.

A microscopic examination of specimens from the extensor aspect of the right forearm and the back of the neck showed an irregular hyperkeratosis and a thinning of the rete over the papillary projections. The prickle cells were swollen, and here and there horny pearls could be detected among them.

J. M. H. M.

EPIDEMIC ALOPECIA IN SMALL AREAS, IN SCHOOLS, REGIMENTS, ETC. John T. Bowen. (*Journ. of Cut. Dis.*, 1915, xxxiii, p. 343.)

This paper commences with a reference to the two epidemics of alopecia in spots which occurred among the inmates of an asylum for homeless girls in

Boston, and which were described by the writer in 1899. In them the bald areas were small and more irregular in outline than those in Alopecia areata, the whole scalp in many cases being dotted over with small angular areas. There were also cases in which larger patches were present more like those of ordinary Alopecia areata. Repeated histological and bacteriological examinations of hairs were negative. At the end of two months the hair began to grow again on the patches, and at the end of six months all signs of the trouble had disappeared.

A small epidemic was described in 1913 by Colcott Fox in which twenty-one scholars from the same school from girls were affected, the ages being between nine and fourteen; and in 1914 Davis published an account of an epidemic of alopecia in an orphanage for girls, in which a careful examination revealed no parasites.

The writer considers that these epidemics appear not to be identical with the sporadic form of Alopecia areata, varying from it chiefly in the small size of the bald areas and their jagged appearance. J. M. H. M.

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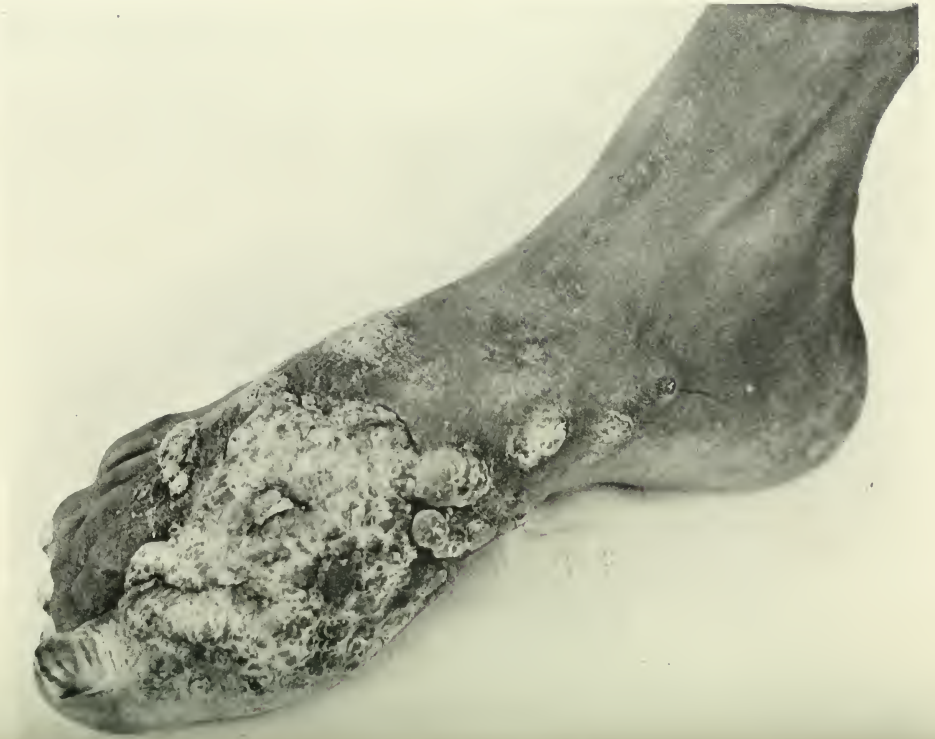

TO ILLUSTRATE DR. H. C. SEMON'S CASE OF MYCETOMA PEDIS

THE BRITISH
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AUGUST, 1915.

MYCETOMA PEDIS.

By H. C. SEMON, M.D., M.R.C.P., Capt. I.M.S.,
Physician for Diseases of the Skin, Great Northern Central Hospital, N.W.

The case on which these notes are founded was exhibited at a meeting of the Dermatological Section on May 20th last. I am greatly indebted to Lt.-Col. F. F. Perry, C.I.E.,* for permission to demonstrate it, and to my ward-orderly, Mr. Iles, for an excellent water-colour sketch.

The disease is by no means an uncommon one in tropical climates, and cases have been recorded even in the southern parts of Europe. The credit of its differential diagnosis from tuberculosis and allied diseases belongs to Vandyke Carter, who from 1860 to 1874 published several important papers bearing on its true pathology, and the ætiological significance of the mycotic granules in the discharge. The mycetomata are a large group of fungi which seem to occupy in the tropics a very similar position to that of the trichophyta and actinomyces in the more temperate climates of Europe and America. All three are characterised by the slow, painless, and comparatively unresisted growth of mycelial elements in human tissues. All three groups have definite cultural appearances which vary extensively with the media and temperatures utilised in their growth, and all three are separable mainly by their cultural appearances into definite subdivisions which are able to produce specific clinical and pathological manifestations.

* Commanding Lady Hardinge Hospital for Sick and Wounded Indian Troops, Brockenhurst.

In his text-book on tropical diseases Castellani describes no less than fifteen distinct pathogenic varieties of mycetoma, and he divides these into three groups according as the escaping granules (or sclerotia) are black, white, or yellow. The commonest species (to which category my case belongs) is the melanoid, and it is sub-divided by him into five varieties.

An examination of the granule under a $\frac{1}{6}$th objective reveals a central mass of mycelium obscured entirely by black pigment.

I have attempted to dissolve this out with chloroform, and to bleach it with peroxide of hydrogen, but it is very resistant to all reagents. Peripherally to the central mass are radially arranged interlacing mycelial threads, of exceedingly fine texture which stain readily in hæmatoxylin, by Gram's method, eosin, and other aniline dyes. The demonstration of the fungus *in situ* has been unsuccessful. The literature on the subject informs me that this failure is by no means uncommon and explains it by the alleged contraction and shrinking of the mycelium and as a result of alcohol fixation, causing it to fall out of the thin paraffin section.

The histological appearance of the sections does not differ in any particular from that of other granulomata. There are present polymorphonuclear, plasma, and young connective tissue cells. The vascular hypertrophy is marked, but there is no endo- or peri-arteritis and giant cells are absent.

I have grown the black sclerotia on several media, notably agar agar and maltose agar, and the growth in Raulin's liquid medium (a suggestion for which I am indebted to Dr. Sequeira) is very profuse. The characters on solid media are a central black portion with a peripheral zone of white or grey growth in the early stages, and a very rapid extension in the course of ten days or less of the black colour to the periphery. The culture soon becomes pleomorphic and loses its definite characters. The optimum temperature in the liquid medium is 35° C. In the course of a week or ten days a quarter of a test-tube full of the delicate, translucent, greyish, feathery growth can be produced from a single sclerotium.

The mycelial threads branch dichotomously and have a stippled appearance, and the segments which make them up can only be clearly distinguished in the thicker elements. No chlamydospores can be seen either in the cultures or in the sclerotia from the discharge.

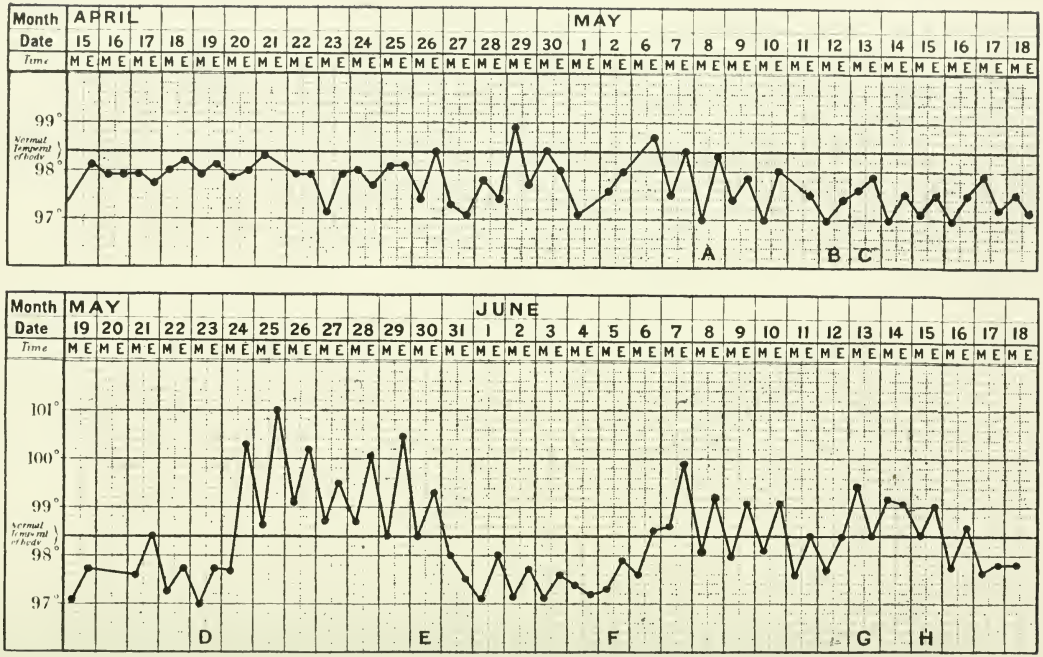
Some three years ago I had an opportunity of seeing the results of trichophytin injections in cases of deep ringworm infection at Prof. Riehl's clinic at Vienna. Although I do not remember that any single case was cured by these measures only, I thought it would be of interest, in view of the exceptionally bad prognosis of mycetoma, to try the result of injections of the filtrate from cultures of the sclerotia.

Several tubes of the three weeks' growth in Raulin's medium were utilised for the purpose. The fungus was ground down in a mortar and the liquid constituents filtered through sterile filter paper. The filtrate was divided into two portions; one half was boiled, and the other not. On May 8th 5 minims of the boiled culture were injected locally above the granulations in the foot, in case of accidental further infection. There was no local reaction, nor any rise of temperature (*vide* chart) on this or either of the two subsequent occasions on which increasing doses of the filtrate were given. On May 12th an injection of the unboiled filtrate (♏ x) also proved ineffective in producing a reaction.

It is of great interest to note that there is a very pronounced reaction to the oral administration of iodide of potassium. This drug, which was given for the first time on May 23rd, was almost immediately followed, as the accompanying chart shows, by a distinct rise in the temperature, which persisted until its administration was withheld on May 30th. Coincidently there was a very distinct local change in the appearance of the lesions characterised by increased protuberance of the granulations, redness, and heat of the surrounding skin and discharge of an increased amount of purulent fluid. Subjectively there was considerable throbbing and pain so that the patient was unable to leave his bed.

All these manifestations ceased when the drug was withheld, but recurred on its resumption, and it is only by continuing its administration over a prolonged period that one will be able to assure oneself of its specificity or otherwise, for as far as can be ascertained in the literature no cures have hitherto been reported by its means.

Although an X-ray examination on two separate occasions with an interval of two and a half months has not revealed any damage to the bones, there can be little doubt that the tarsus, metatarsus, and tendon sheaths are all involved and that no surgical interference, short of amputation, would be of the slightest benefit.



A. Injection of boiled filtrate from culture (m\v). B. Injection of boiled filtrate from culture (m\v). C. Injection of unboiled filtrate (m\v). D. Commenced administration of iodide gr. xx *t. d. s.* E. Ceased administration at noon. F. Recommenced iodide gr. xx *t. d. s.* G. Increased to gr. xl *t. d. s.* H. Ceased administration finally.

The effect of X-ray therapy has proved to be exactly the same as with the trichophyta. It has no specific effect on the growth of the fungus and merely controls the exuberance of the granulations for a time.

The clinical appearance of the case conforms in every particular to the text-book descriptions of the disease. There is club-shaped enlargement of the foot, with filling up of the plantar arch. There is darkening of the skin over the dorsum, and the exuberant growth of puffy purple granulations perforated at intervals by sinuses of varying depths, and complicated intercommunicating directions from which the typical granule-containing pus exudes. The disease has taken about six months from the time it was first noticed to reach the pronounced condition shown in the photograph, and although the patient traces its commencement to the fall of an ammunition box on his foot in January, 1915, while in France, there can be no doubt that he must have been infected during or before October, 1914, when he left India for active service in France.

Since writing the above, the administration of iodide has again been abandoned, owing to the increasing pain, which prevents the patient from sleeping. As the patient still refuses to allow amputation, ionisation with 7 per cent. pot. iod., and 2 per cent. sulphate of zinc alternately is being experimentally tried.

Description of Plate.

The soft protuberant granulations are obvious in the photograph, and the progress of the disease as indicated by the eruption of isolated nodules above the main seat of the affection is also clear. The melanoid discoloration of the skin between the protuberant masses is of too ill-defined a character on an already pigmented cutis to appear photographically, and for the same reason the mouths of the sinuses which tend to open in or near the clefts in the granulations are also invisible.

TWO CASES OF SWEAT-GLAND TUMOURS.

Notes by W. H. ALDERTON, M.R.C.S., L.R.C.P.,
Late Clinical Assistant, Skin-Department, London Hospital (Dr. J. H. Sequeira).

Report on Histology by H. M. TURNBULL, D.M.,
Director of Pathological Institute, London Hospital.

(1) Sweat-Gland Nævus.

The patient, a male, aged 67 years, admitted to the London Hospital on June 27th, 1914. Since birth he had had a mole on the right cheek, immediately in front of his ear. For one year it had been more prominent, and for two months it had been growing rapidly.

When seen on June 27th he had a brown, flat, lobulated, and irregularly triangular swelling in front of his right ear; the base of the swelling extended along the zygoma for $1\frac{1}{4}$ in., whilst its apex reached to the angle of the jaw. The swelling was hard, and exuded pus in some places on its surface, and the patient complained of some pain.

The tumour was excised by Mr. Robert Milne, and the raw area was treated with a $\frac{2}{3}$ pastille dose of X-rays on three occasions—viz. July 20th, July 27th, and August 4th. This proved quite sufficient treatment for the raw surface to heal up rapidly and leave a perfect scar.

Dr. Turnbull's Report.

Macroscopic.—A portion of skin and subcutaneous lipomatous tissue, measuring 5 cm. in diameter and 0·8 cm. in depth. A few hairs project from the outer surface. The outer surface, with the exception of a narrow peripheral zone, is occupied by a slightly raised, ulcerated, papillary growth.

Microscopic.—At one border there is normal skin which contains hair-follicles and sweat-glands. The rest of the section is occupied by very large papillary processes of dermis. These are covered by an epidermis which has long, broad, inter-papillary processes. The processes are composed of typical cells, and are sharply defined. On the surface of some of the papillæ there is a broad layer of horn.

The majority of the clefts between the papillæ are lined by a similar epidermis, and contain desquamated cells and neutrophile leucocytes. In one large cleft, however, which branches towards its termination, the lining of squamous epithelium quickly gives place to a lining which resembles that of a sweat-duct; a layer of short columnar cells rests on a layer of cubical cells, outside which there is a sharply defined basement membrane. In places there is proliferation and desquamation of this epithelial lining; the cleft contains desquamated cells and neutrophile leucocytes. Several sweat-ducts lead from the termination of the cleft to glands in the subjacent dermis. In many of these ducts and in a few of the glands there is a desquamative catarrh. One duct is cystic. In the dermis at the border and base of this cleft there is a dense cellular infiltration. The majority of the infiltrating cells are plasma cells; eosinophile leucocytes and occasionally neutrophile leucocytes are also present. A similar infiltration is present round some of the other clefts.

The section shows an inflamed papilloma of the skin, with one inter-papillary cleft formed by a greatly elongated and dilated sweat-duct, from which several other ducts pass to sweat-glands in the subjacent dermis.

(2) Melanotic Carcinoma of Sweat-gland. Rapid Metastases.

The second case was that of a male, aged 32 years. The patient was admitted to hospital in September, 1914. Eighteen months previously a small, flat, brown "wart," the size of a pea, appeared on the anterior aspect of his right wrist. Sixteen months later he cut it at work and made it bleed. Two months later the swelling became raised and painful; he painted it with iodine, and this made it worse. He attended as an out-patient at hospital, where the condition was considered to be a granuloma, probably of tubercular origin. He was treated with creosote and salicylic acid plaster, Beiersdorf 81, and then with four pastille doses of X-rays. His condition improved for a time, but on resuming work the tumour increased in size and bled easily on being knocked. On admission to hospital the patient had a raised reddish swelling about the size of a shilling on the anterior aspect of the right wrist; it was rough and ulcerated, and the surface exuded pus. In his axilla was a

large, hard, tender gland, the size of a grape. The swelling on the wrist was fomented and then excised; the base was treated with two pastille doses of X-rays. The gland in the axilla at first decreased in size, but three weeks later the patient had a hard fixed mass in the right axilla about the size of a large fist; he was in great pain and rapidly wasted. The primary focus had healed. Operation being impossible the patient died at home. No autopsy was obtained. The interest of the case lies in the rapidity of the growth.

Dr. Turnbull's Report.

Macroscopic.—A portion of skin in formalin. The outer surface is 2 cm. square; a nodule, 1·5 cm. in diameter, projects from its centre. The surface of the nodule is pink and has the appearance of rather coarse pile. On section, the nodule extends for 1 cm. into the dermis; its cut surface is homogeneous; it blends at its margins with the dermis; in its upper 0·25 cm. it is pink, beneath this it is yellow.

Microscopic.—The section consists of a portion of horny skin which contains many sweat-ducts and glands. The epidermis is ulcerated in the centre, the normal epidermis ending abruptly at each border of the ulcer. The normal epidermis is not pigmented. The dermis beneath the ulceration is infiltrated by carcinoma. In the superficial part of the infiltrated dermis the cancer cells are frequently arranged in sharply defined, rounded, solid processes. The cells therein vary both in shape and size; many are round, others are of spindle shape; the majority are much smaller than the cells of the normal epidermis. Between these rounded processes there is a diffuse infiltration by cancer cells which show greater variation in size, the majority being large and having a very abundant protoplasm. In the deeper part of the infiltrated dermis the cells are arranged in narrow strands. The majority of the strands are solid; others have a lumen, within which there is usually a few discrete cells. In this deeper part the variation in the size and shape of the cells is very marked; multinuclear giant cells and cells with atypical nuclei are numerous. There are no cells with prickle-borders in the growth; there is no formation of horn; there is no pigment.

The growth in general resembles a carcinoma of basal cells much more closely than a carcinoma of cells of the Malpighian layer. It differs, however, from a characteristic, non-pigmented, basal-celled

carcinoma in the conspicuous variation of the cells and their nuclei and the marked tendency to diffuse infiltration; these characters justify, on histological grounds, a diagnosis of great malignancy. The character and arrangement of the cells suggest that the carcinoma may have arisen in sweat-ducts. The growth is, however, unlike the usual examples of carcinoma of sweat-ducts. Although there was no evidence of pigmentation in the macroscopic and microscopic examinations, it is possible that the growth is a melanotic carcinoma in which very little melanin has been elaborated.

Further examination has shown that there was a portion of the growth which contained a large group of cells loaded with melanin. The pigment does not give an iron reaction.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held July 15th, 1915, Dr. J. J. Pringle, President of the Section, in the Chair.

Dr. J. J. Pringle showed a case of *persistent gyrate eruption*. The President brought forward a man of Scottish birth, aged 40 years, occupied as a shampooer in a Turkish bath, who presented a persistent circinate and gyrate eruption, as to the nature of which he entertained some doubt. The condition was said to have first appeared in the beginning of June as a patch, "the size and the shape of a pear," over the right scapular region; a few days later other similar patches developed, affecting in consecutive order the back, the front of the chest, the abdomen, and inner aspects of the thighs, all of these regions being involved when the patient came under observation on June 22nd. Since that date the eruption had also appeared on the calves of the legs. The lesions, which were pretty accurately symmetrical, consisted of large circles and gyrate figures produced by their intersection. Their margins were vivid pink in colour, and were faintly infiltrated and slightly raised above the general skin level, their elevation being more perceptible to touch than to inspection. Some of the elementary circles measured 2 to 2½ in. in diameter. The

slightly elevated margins were continuous—not papulated—and were not scaly or "wrinkled"; nor did the skin in the centre of the patches show any abnormality of the epidermis, or any greasiness or pigmentary change. The eruption appeared to begin as a circinate one, no centrifugal extension from any primary eruptive element having been noticed, either by the exhibitor or by the patient; and when the circular lesions were once formed they had not been observed to extend at the periphery. They varied, however, considerably in colour from day to day, and became distinctly paler after the patient remained stripped for some time. There was no itching. There was no history of syphilis and the Wassermann reaction was negative. Ordinary and differential blood counts revealed no abnormality. The urine and internal organs were normal. The patient expressed himself as being in "perfect" health. No fungus or undue number of bottle bacilli were present in scrapings. Treatment by weak sulphur, resorcin, salicylic paste, had exerted no influence on the eruption, but had set up a slight degree of diffuse dermatitis, and had not affected the development of the condition in other parts (*e. g.* the calves). No internal treatment had been adopted.

The exhibitor had considered the possibilities of the eruption being a circinate Pityriasis rosea, a ringed seborrhœic dermatitis, an annular Lichen planus or psoriasis, or a Tinea circinata, but had rejected all these diagnoses for reasons which might be gathered from his description of its objective characters. His diagnosis—admittedly one "of embarrassment"—was that of an *Erythema gyratum perstans*, although it differed in many material respects from the cases described by Dr. Colcott Fox under that name in 1901 * (previously demonstrated to the Seventh International Medical Congress in 1881, although not recorded in its *Transactions*), and by Dr. Grover W. Wende,† of Buffalo, U.S.A., in 1906.

Dr. Adamson thought the diagnosis rested between Dr. Colcott Fox's persistent circinate erythema and Pityriasis rosea circinata. He could not make up his mind to which of those it belonged.

Dr. Graham Little did not think this case could be included in the category of Dr. Colcott Fox's gyrate erythema, inasmuch as Dr. Fox had suggested that diagnosis for a case which Dr. Little had shown at this Section in which there was very distinct vesication, and this feature was entirely absent here. Dr.

* *Internat. Atlas of Rare Skin Dis.*, 1901.

† *Journ. Cut. Dis.*, 1906, xxiv. p. 241. with bibliography.

Little was quite convinced that it was a case of Pityriasis rosea of the type named by Darier "Pityriasis rosea gigantea," of which a photograph had been kindly lent to the exhibitor by Professor Nékám, for the purposes of Dr. Little's paper on Pityriasis rosea,* where it was reproduced. Dr. Little had not seen an instance of this type, which was certainly extremely rare, until a few weeks ago, when a very characteristic case had appeared at St. Mary's Hospital, which bore a strong resemblance to the present case. The patient was a woman who gave a most convincing history of the pioneer patch, and she developed circinate patches the size of the palm of the hand, which were devoid of fungus, and cleared up in the usual way.

Mr. McDonagh thought the condition belonged to the gyrate form of Pityriasis rosea.

Dr. MacLeod did not think it was Pityriasis rosea: he believed it to be a toxic condition. The scaly condition of the lesions on the arm seemed to be due to treatment with resorcin.

Dr. Stowers, while admitting the exceptional characters of the case, said that the prevailing features so far resembled Pityriasis rosea that, uninfluenced, he would have regarded it as an unusual example of that disease.

Dr. Pringle said, in reply, that his case was not in complete accord with those described under the same name by Dr. Colcott Fox, which, as Dr. Graham Little had said, vesicated. He could not accept the diagnosis of circinate Pityrasis rosea advanced by Mr. McDonagh and Dr. Stowers, as the primary lesions—which he had studied with special care—presented none of the essential characteristics so typical of that disease. The localisation of the first lesions and their gradual extension from above downwards had suggested that diagnosis *in limine*, but he had abandoned it. Unfortunately, he did not know the disease described by Darier as Pityriasis rosea gigantea. He placed considerable importance on the fact, which he had observed for himself, that rings varied greatly in intensity of colour with changes of temperature: and this seemed as incompatible with Pityriasis rosea as it was suggestive of a member of the Erythema exudativum group.

(*Post scriptum*.—Since the meeting Dr. Adamson has drawn my attention to two cases of circinate erythematous eruption shown by him to the Dermatological Society of London in 1906† and 1907.‡ Both presented considerable resemblances to the case under discussion. Dr. Graham Little has also drawn my attention to his remarks on Pityriasis rosea gigantea in his address to the Section in February, 1914.§ He has most kindly sent me Prof. Nékám's original photograph of a case of that very rare disease under his care; but a glance at it, especially at the characters of the central portions of the

* *Proceedings*, 1914, vii, p. 133.
† *Brit. Journ. Derm.*, 1906, xviii, p. 403.
‡ *Ibid.*, xix, 1907, p. 199.
§ *Proc. Roy. Soc. Med.*, 1914, vii, p. 133.

lesions, will show that it differs widely from the case I exhibited.—J. J. P.)

Dr. E. G. Graham Little showed a case of *pigmentation around the mouth in a boy, aged 14 years.* Dr. Little said he brought the patient in the hope of receiving help in regard to both diagnosis and treatment. More than a year ago the lad, while at a public school, had an inflammatory affection about the mouth, which was thought to be tinea, and for some weeks he was painted with tincture of iodine. A good deal of chronic inflammation appeared to have preceded the pigmentation. He was a native of Trinidad, but he had been in England for some time for purposes of education. The mother was half French and half English, and was, like the son, a brunette. There was no accentuation of pigmentation in other parts of the body or of the mucosa. The iodine was stopped at least eight months ago, and no other irritant had been applied. During the last four or five months he had been having peroxide of hydrogen lotion and had got somewhat better. At the present time there was a coffee colour staining of the skin of both lips, about very much as if a brush of pigment half an inch broad had been swept rather clumsily round the orifice of the mouth. It was for this disfigurement that help was chiefly sought.

Dr. MacLeod said that he believed that the original trouble was a streptococcic perlèche and he considered that the pigmentation might quite well be accounted for by the irritation of the inflammatory condition and the treatment to which it had been subjected.

Dr. F. Parkes Weber thought that the peculiar shaped area of pigmentation about the mouth must be the result of a chronic irritation, that was to say, it must be the result of a chronic inflammatory condition of some kind or other. In people of very dark complexion like the patient, pigmentary changes were, of course, much more easily produced than in ordinary people.

Dr. E. G. Graham Little showed a case of *multiple cutaneous cysts demonstrated microscopically to be inclusion cysts of the epidermis.* As the case which Dr. Little was about to describe seems unique, and as no member of the Section who was present at its exhibition had seen its like, a full report of it might be desirable.

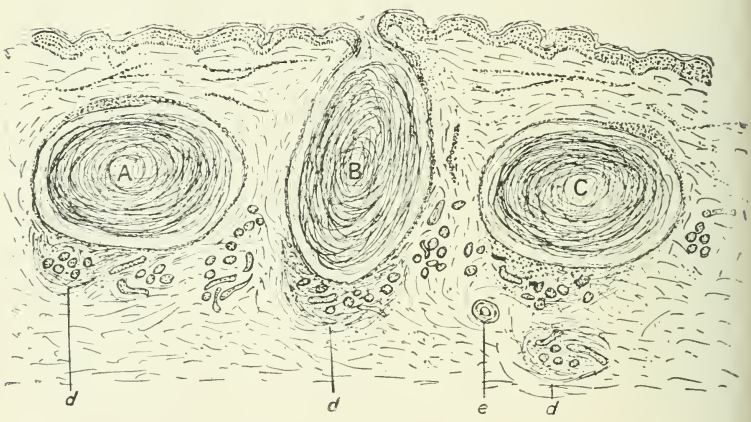
The patient, Mrs. A—, was a widowed lady, aged 66 years, with her home in Shipley, Yorkshire, where she had been resident for many years, and had carried on a business in millinery. She was a

small, thin, but active woman, with two grown children now aged 33 and 35 years respectively. There was no history of family disease, except that a brother of hers had died of consumption, aged 23 years, many years ago. Her husband had died of cancer of the stomach ten years previously to the commencement of her skin-affection. She was sent to the exhibitor by Dr. Thornton, of Shipley, on June 24th, and was not seen again by him until she came to the meeting of the Section on July 15th. Her history was as follows:

Some three years ago her hair had begun to give her some trouble; it had long been white, but about this time it seemed to suffer from an arrest of growth so that it remained short over the greater part of the scalp, the individual hairs not exceeding $\frac{1}{4}$ in. in length, but nowhere was there any deficiency of hair in the sense of causing baldness, but she now wears a wig. About two and a half years ago she suffered for some time from diarrhœa and she wasted a good deal. The tumours began to appear about this date, at first on the anterior border of the axillæ and on the neck. They had become more frequent in the latter months, but during all the time since their first development they seemed to have become progressively more numerous. They had always been themselves moderately irritating, but in addition she appeared to have had from the beginning frequent attacks of a very itchy urticaria. She says she has grown much thinner in the last two months, but there is no ascertainable general illness to account for this. The thyroid was notably enlarged, and the increase had been noted for about eighteen months. There was no noticeable enlargement of lymphatic glands. There was considerable pigmentation of the skin in the areas where the tumours were most numerous, and where itching was severe, and this symptom, and the fact that she had taken arsenic for prolonged periods, might account for the deepened colour. There were no uterine discharges. The teeth were defective and decayed, and the mouth in a somewhat septic state. The mucous membrane was not pigmented.

Character and distribution of the tumours: These were evidently in the substance of the skin and freely movable with it. The individual lesions were very uniform in size and appearance, and might be described as "pearly" swellings, with something of the aspect and size of boiled sago grains. In several instances a patent orifice

was visible to the naked eye at the summit of the swelling, and from this opening cheesy matter could be squeezed, or in the larger and more patulous tumours a hard, horny brown mass could be extruded. One of the larger tumours, about $\frac{1}{4}$ in. in diameter, which represented the limit of enlargement, was excised and a thick white cheesy matter was voided, which, when dry, formed a brown horny mass (like the plugs extracted by the patient, of which she was able to supply a small collection which she had thus squeezed out for herself). The tumours were symmetrically distributed and were very closely grouped together, so that whole sheets of skin seemed involved, and



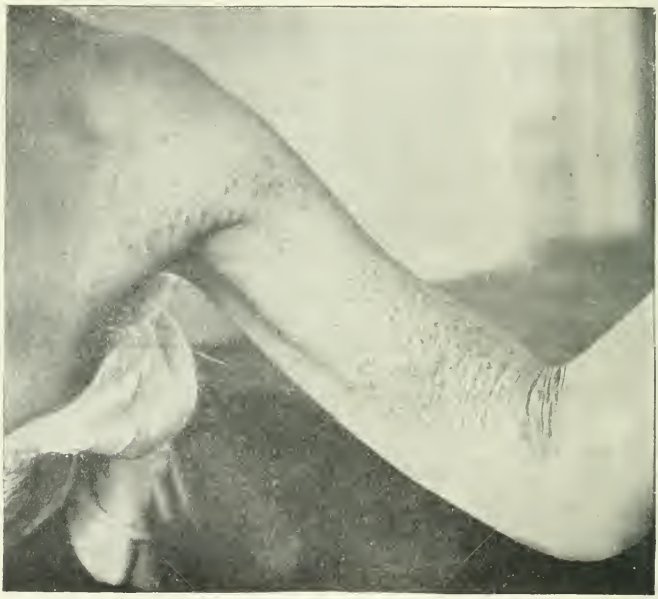
presented a coarsely "hobnailed" aspect, and the skin itself was notably thickened in these parts, notwithstanding that the distribution was in positions where the skin is normally thin. In a very few instances suppuration appeared to have taken place in individual tumours, leaving bluish stains, such as might result from boils. The principal seats of distribution were the axillæ, where they first appeared, and where the anterior borders and the sides of the chest below the armpit were crowded with small swellings; the flexor surface of both upper arms from the axillæ to the bend of the elbow were studded with small growths, in most cases the colour of the surrounding skin, in others of a pale cream tint, in a few instances of a bluish hue. The skin of the abdominal wall in the hypogastrium

and pubic region was similarly studded with very small pearly tumours; in the latter position the skin was deeply pigmented, as it also was on the upper and inner parts of the thighs where there were many small swellings, and there were sporadic small elevations in the popliteal spaces on the fronts of the legs, the neck, in both of which positions there was much pigmentation; there were a few individual tumours on the forehead at the junction of the skin and scalp. The back of the trunk was entirely free, and in fact the extensor surfaces were generally exempt, the only exception being the forearm, where on the outer and upper part from the elbow to the junction of the upper and middle third of the forearm there was a particularly thickly distributed eruption of small tumours. The total number of tumours thus present on the whole body aggregated several hundreds. The skin was everywhere dry and markedly non-greasy. The hands showed several "Heberden's nodes." The hair in the axillæ and pubes was not arrested in development as it was in the scalp, and was in no way deficient. The nails were normal.

Microscopical examination: A portion of the skin was excised from the flexor surface of the right upper arm, fixed in formalin and cut in paraffin. It would give an idea of the size and closeness of setting of the tumours to mention that the section in the paraffin block measured exactly 10 mm. in length, and in this strip of skin there were three cysts plainly visible to the naked eye, each being from 1 to 3 mm. in diameter, of a light buff colour, and showing an onion-like stratification, the whole tumour being deeply situated for the most part, and separated from the horizontal line of the surface by at least a millimetre. With a low power, the section was seen to contain three cysts, of which the central one communicated directly with the surface by an aperture which was partially blocked with horn-cells and granular *débris*. The epithelial lining of the epidermis was continued directly into the cyst cavity, which was nearly entirely filled with a mass of stratified material staining exactly like the stratum corneum. There is no flattening of the papillæ over the cysts. There are no hair-follicles or sebaceous glands seen in any part of the sections examined. The sweat glands appeared normal, are thrust downwards by the bulk of the cyst, and were found for the most part bunched together outside and at the deeper margin of the cyst. In several places, and especially in the neighbourhood

of the deepest end of the cyst, there was considerable inflammation apparently round these glands which were embedded in a fibrous and cellular envelope. But the glands were nowhere dilated, and this apparently inflammatory reaction was seen in collections of glands remote from the cyst wall.

With higher magnifications the following details could be made out: The stratum corneum was thickened throughout the section;



the stratum granulosum was normal; the rete was in no way altered or thinned, the prickles well marked. At the junction of the epidermis with the orifice of the patent cyst the epithelium suddenly alters, to lose its prickles, to become less than half as thick, to lose its interpapillary prolongations, so that the wall had for its outer boundary a continuous outline uninterrupted by projections. In no part of the cyst wall was there any default of the epithelial coat, but this was of varying thickness, for at its upper margin, nearer the line of the epidermis, it was in parts very nearly as thick as the normal epidermis

covering it; but in the greater portion of the wall the cells were several layers thick, it was true, but still less than half as thick as the normal epidermis. Nowhere in the envelope were there any glandular vestiges, or hair tissue. Nearly all round the cyst, between the corium and its containing wall, there was a definite lacuna, possibly artificial, as the contents of the cyst were very hard on cutting. At several places in the line of the outer cyst wall the corium was retained in contact with it by some organised fibrous tissue, with a very cellular corium surrounding it. The inner wall of the cyst was lined throughout with a thin layer of stratum corneum, separated by another lacuna from the great mass of horny tissue which fills the cyst cavity. This mass was for the most part homogeneous horn-cell tissue, arranged in concentric strata like the layers of an onion. In the case of the patulous cyst this mass was continuous with the mass partially corking the aperture, and the whole mass, both at the orifice and within the cavity, was permeated with very numerous cocci. These were not found in the smaller and non-patulous cysts. Probably, therefore, these were really closed cavities, not communicating with the surface.

The epithelial cells constituting the cyst wall showed elongated nuclei in the inner layers bounding the cavity, and kerato-hyaline granules were present in these. The outer layers showed more rounded nuclei, the outermost differing but little from normal epidermal cells, except that prickles were nowhere visible. The contents of one of the cysts which were evacuated by incision were examined. The bulk of the extruded matter was insoluble in chloroform, and when teased out in potash was seen to be chiefly composed of epithelial cells. A few cholesterin crystals were seen in the *débris*. Some fat was extracted by the immersion in chloroform, and stained characteristically with osmic acid. The cheesy matter, white when freely expressed, soon dried, to form a hard brown horny plug.

The PRESIDENT was not conversant with the recent literature on the subject of what Dr. Graham Little called "implantation tumours," but the case and the section exhibited reminded him of a very similar condition described by himself in 1899 under the name of *Steatocystoma multiplex*.* The paper referred to contained a note of an apparently identical case described by Bosellini, of Bologna.†

* *Brit. Journ. Derm.*, xi, 1899, p. 381.
† *Arch. f. Derm. u. Syph.*, 1898, p. 81.

and of a somewhat similar condition by Dubreuilh, of Bordeaux.* Probably the recent views on the true pathology of these apparently identical or allied conditions were much nearer the truth than the older conceptions.

Mr. Willmott Evans did not venture to give an exact opinion as to the nature of these tumours, but thought it a pity to apply the name "implantation cyst" to them. Implantation cysts had a definite and well-recognised nature and origin. They were due to trauma and to masses of epithelial cells being carried into the derma. In the majority of such cases the history was quite clear, as was also the nature of the lesion. He did not believe Dr. Little suggested that in this case the cysts were due to the carrying in of epithelium from the surface; therefore it seemed a pity to use the term.

Dr. Adamson thought they might appropriately be called inclusion cysts, for the sections under the microscope showed them to be cysts formed by recent infoldings of the epidermis and not embryonic hair-follicles, sebaceous glands or sweat ducts or glands, as in tricho-epithelioma, sebaceous adenoma, and cyringoma. In parts of the section a commencing infolding of the epidermis could be clearly seen. Similar cystic formations simulating sebaceous gland tumours were seen in some cases of linear nævus (Haldin Davis, case with drawing of section),† but the speaker had not seen any case quite like that now exhibited by Dr. Little.

Dr. MacLeod said he had examined the section and agreed with Dr. Little's view as to the histology.

Mr McDonagh said he thought it was a case analogous to linear nævus, in which some of the cysts had developed in the openings of the sweat ducts and the pilo-sebaceous follicles. In his opinion, implantation cysts and inclusion cysts were mechanically formed by inclusions of the epidermis, and were not uncommonly met with after burns and in Epidermolysis bullosa.

Dr. Graham Little, in reply, said that Dr. Pringle was of opinion that the case showed some clinical resemblance to a very remarkable disease in a male patient, described by him,‡ in which the microscopical appearances of the cysts there present led to their being identified as sebaceous in origin. This was particularly interesting in connection with the present case, in which the writer was inclined from the clinical symptoms alone, and especially from incision of a tumour appearing to result in the extrusion of what was extremely like sebaceous secretion to the naked eye, to regard the tumours at first as sebaceous cysts, although the distribution was in parts where sebaceous glands were not particularly in evidence, and their absence in typically sebaceous areas rendered this identification unlikely. The distribution and general clinical character of the tumours in Dr. Pringle's case were remarkably like these factors in the present case. But differentiation was established by the demonstration in Dr. Pringle's case of enlarged sebaceous glands in the vicinity of the cysts, by the presence of fragments of sebaceous gland tissue adhering to the cysts, and by the complete absence of horn cells within the cysts. For it was expressly stated that the epithelial wall of the cyst "never resembled in

* *Arch. Clin. de Bordeaux*, 1896, p. 191; and *Trans. Third Internat. Congress of Derm.*, 1898, p. 818.

† *Proceedings*, 1910, iii, p. 195.

‡ *Brit. Journ. Derm.*, 1899.

appearance the upper epithelium of the epidermis, nor showed any tendency to become transformed into horny epithelium, and that the contents of the cysts were dissolved out by ether." Dr. Pringle gave a reference to a case similar to his own described by Bosellini. Dr. Little had not had access to the original description, but judging from Dr. Pringle's description this could also be differentiated completely from Dr. Little's case. Similarly, there could be no question of the derivation of the cysts in the exhibitor's case from sweat glands or from hair-follicles, and the demonstrable continuity of the cyst wall with the surface epithelium of the epidermis, and the filling of the cavity of the cyst with stratified horn cells, left no option save to regard them as inclusion cysts, admirably described by Darier in his article on tumours in the "Pratique dermatologique" under the title "kystes traumatiques epidermiques." These were the same type as the "implantation cysts" of surgical text-books, and might be supposed to be produced by the transfer, through injury, of a fragment of epidermal tissue into the corium: there the fragment grew, usually to the formation of a closed cyst, but continuity of the interior of such cysts with the surface epidermis had been demonstrated previously. The chief difficulty of accepting this explanation in the present case lay in the complete absence of any history of injury, the enormous number of cysts present, and the position of these. It had been suggested that this case might be explained on the supposition that these tumours were really of congenital origin, that was, dermoid cysts, the late eruption of which might be determined by some unexplained stimulus. But the history, to the effect that all the tumours made their appearance for the first time after the patient had passed her sixty-third year, seemed to negative such an hypothesis, which was also quite out of accordance with the multiplicity and distribution of the growths. Implantation cysts were rare in any position, were almost always either single or at the most very few, and with one or two exceptions had been confined exclusively to the hands and the iris; a generalised eruption of such cysts had not been hitherto recorded, so far as was known to Dr. Little. But instances had occurred in which injury had not apparently preceded their apparition, and as Darier stated that as long an interval as twenty-four years might separate the trauma from the development of the tumour resulting from it, it was obvious that the injury might be forgotten in that long period. Rollet had cited a most interesting example of such a cyst appearing fourteen years after injury, in which the growth recurred twice after it had been apparently completely excised. Lefort, whose work on this subject was the fullest that the exhibitor had been able to consult, remarked on the extreme rarity of inclusion cysts in parts other than the iris and the hand, and stated that the connection with injury was far from established, so that he preferred for them the title of "acquired dermoid cysts." He offered no example in his own experience or from the literature of *multiple* cysts of this nature. He explained the absence of glands and hair-follicles in the cyst wall on the assumption that if only the upper zone of the epidermis was displaced, which on experimental and clinical data he showed was much the commonest event, the cyst wall would contain only epidermal cells. If a thicker section of the skin with its appendages was buried in the deeper tissues, papillæ, glands, and even hairs might be present in the cyst wall, and he mentioned a personal observation in which a single hair was thus demonstrated within the cyst. He thus made out

two classes of this type of cyst, according as the invaginated fragment contained or did not contain the skin appendages in addition to the outer epidermal zone. For the production of the purely epidermic variety very much less force, very much less obvious injury, might suffice; and as in the present case the cysts were throughout of the purely epidermal type, it was possible that an explanation for their production may be found in the fact that the patient had been accustomed to scratch herself to the point of mutilation, having apparently suffered very frequently from severe urticaria.

Dr. G. F. Stebbing showed a case of *atrophic sclerodermia and sclerodactylia, with nodules of calcification about the left shoulder.* The patient was a woman, aged 70 years, with general sclerodermia. It was the first case of which he could find any record of such extensive calcification as this patient showed. A skiagram showed there was a continuous chain, starting at the lower part of the axilla and extending in a horseshoe shape round the upper end of the humerus, becoming superficial over the deltoid and reaching down as far as the insertion of that muscle. The mass was at first regarded as a calcification of the capsule of the shoulder-joint, but the skiagram showed that this was not the case. The contents of the nodules had not been examined.

Skiagrams of the hands showed marked atrophy of the phalanges and pathological dislocations of the middle phalanx of each little finger.

Dr. F. Parkes Weber said that, considering how long the disease had been going on, the nutrition of the patient's feet was still remarkably good, and good pulsation could be felt in the dorsalis pedis artery in both feet. There had been many cases of sclerodermia recorded associated with calcification in the skin and subcutaneous tissues, especially in the fingers, but he believed that this was the only case in which that particular part—namely, the region of the left shoulder—had been affected by calcification. In the present case that was the only part affected by calcification, but the amount of calcification in that part was very great.

Dr. G. F. Stebbing showed a case of *peculiar zoniform nævus of the right upper extremity.* B. L. M. W—, aged 32 years, had a number of discrete hard nodules, slightly pigmented, on the right forearm and arm, more marked on the extensor than on the flexor surface. The nodules had been present since birth, and they did not appear to follow closely the distribution of any cutaneous nerve. They had never caused any trouble. It was hoped that a section of one of them would be shown later.

The PRESIDENT expressed some objection to the term "zoniform" as applied to the case, which was merely unilateral. The tumours certainly resembled leiomyomata, and the same idea had occurred to Mr. McDonagh. Perhaps Dr. Stebbing would furnish microscopical evidence of their nature before the publication of the *Proceedings*.

Dr. F. PARKES WEBER said he believed that, when Dr. Stebbing had kindly shown him the case at the Lambeth Infirmary, he had suggested that a biopsy examination might show the little tumours to consist of unstriped muscle tissue —*i. e.* to be leiomyomata. Surely, however, in this case they constituted a kind of "nævus unius lateris," or systematised nævus, even if not a true zoniform nævus.

Mr. MCDONAGH agreed that it was impossible to make a diagnosis without a biopsy; but, tentatively, he would regard it as a case of Leiomyoma cutis.

Dr. GRAHAM LITTLE said that from the colour of the lesions there might be a remote possibility that it was an example of Urticaria pigmentosa, which he had seen in very restricted distributions; but obviously no diagnosis could be established until the histology had been investigated.

Dr. H. W. BARBER showed a case of *Lupus erythematosus*. The patient, a middle-aged woman, was well under her twenty-fourth year when she developed myxœdema, and was treated for it with thyroid for eight years. She improved on it, and remained well as long as she took the drug. In August, 1899, while at St. Anne's-on-Sea, her face became very irritated and sore. It was treated with ointment and cleared up, with the exception of two patches, one on each cheek. These gradually spread until, in 1902, she was treated by a German doctor by means of Unna's plaster. On this treatment she made a rapid improvement, and the eruption cleared, leaving two slight scars. Four years later it returned, but on the right side only. In 1906 she was married, and in the beginning of 1907, when pregnant, she went to the Norwich Hospital, where her face was treated with X-rays, but it did not get better. The patch continued to spread, and in July, 1913, it was cauterised with trichloracetic acid. The hair then began to fall out. Last Christmas spots appeared on her hands and were treated at Norwich by means of X-rays; but, according to the patient's story, her hands had been worse since she had the X-rays. During that time, until a week before he saw her—which was a month ago—she was taking large doses of thyroid. When he saw her in the out-patient department he thought it was Lupus erythematosus, and he believed the X-ray treatment had made the condition much worse. Dr. Williams told him he had a case like it, which cleared up under sour milk treatment, and he would be glad to hear whether any other

member had had experience with this type of case. The von Pirquet reaction was negative.

He was much indebted to Sir Cooper Perry, who had given him permission to show the case.

Dr. STOWERS considered that the case was certainly Lupus erythematosus. In his opinion X-ray treatment was inappropriate and calculated to aggravate the disease. He saw in consultation about three years ago a somewhat similar instance, which had assumed an acute form under X-ray treatment, and rapidly extending, ended fatally. He regarded the present case with considerable apprehension and recommended absolute rest in bed with a sedative local treatment. He asked whether the urine had been recently examined and with what result.

Dr. PERNET said he had seen cases of Lupus erythematosus aggravated by the application of X-rays. He did not like the look of this case, which was certainly one of Lupus erythematosus. He had also intended to ask whether there was albumin in the urine. He would advise sedative local treatment, and quinine internally; the local treatment first.

Dr. SIBLEY said he never used X-rays for Lupus erythematosus now: he had long since given it up. Cases of this kind he always treated by painting them over about once a week with acetone and CO_2, very lightly, for a second or two, using calamine or other sedative lotion in the intervals. They all did very well under that. He did not limit it to cases which were localised. He had had recently in the hospital both a man and a woman with the whole face and ears and crown of the head practically covered, producing extensive alopecia and some superficial excoriation. He painted one side one day and the other side another day. Both left the hospital in a month with all the condition practically quiescent. He believed the excoriation in these cases resulted from the previous treatments.

Dr. DUDLEY CORBETT thought that for small localised patches of Lupus erythematosus the X-ray was sometimes good treatment, but his practice lately had been to treat those cases first by ionisation with zinc, followed immediately after by a small dose of X-rays. It seemed to be the most successful treatment hitherto employed, and the results obtained were better than those following the use of either method separately. He had used the CO_2 paint, but on the whole did not think that it was as useful as the method just described.

The PRESIDENT said he agreed with the diagnosis of Dr. Barber, Dr. Stowers, and others. He believed the extreme acuteness of this case was due to the application of X-rays. He had seen a similar accident on more than one previous occasion. Nevertheless, he had seen cases of Erythematous lupus of the "fixed type," in which the lesions were very clearly demarcated, improve markedly under mild X-ray treatment, apart from ionisation. He knew of Dr. Corbett's success by his combined method. He regarded the case as one of great gravity, and it seemed to him to call for enormous doses of salicin or quinine. He usually gave quinine the preference.

Dr. BARBER replied that the patient's urine was normal; the faeces had not been examined.

Dr. H. C. Samuel showed a case of *annular Lichen planus in two sisters*. *Case* 1.—Patient, A. E. B—, a married woman, aged 60 years, with five children, all in good health, came to the Prince of Wales's Hospital, Tottenham, last March, with ringed lichenoid eruptions on limbs, diagnosed by Mr. Samuel as Lichen planus annularis. Her skin trouble began at the age of seventeen, with a similar eruption; it lasted for about twelve months, and recurred more mildly a short while afterwards. Ten years ago she had another attack lasting three months. The present attack at its commencement involved the whole of the arms and legs; it had now practically disappeared, leaving definite pigmentation. During her first attack she was under the care of Dr. Tilbury Fox, as an in-patient at University College Hospital for two months, and afterwards attended as an out-patient. Patient stated that she was exhibited by Dr. Fox at the Clinical Society of London, and that her case was described as Lichen ruber.*

Case 2.—A. H—, aged 42 years, sister of the first patient, had a ringed eruption on the limbs and trunk. The appearance of the lesions was identical with those present in her sister. This was her first attack; it commenced last November, but was now subsiding.

Both patients came to the Hospital independently of one another and on different days. The second patient was unaware of the relationship until they happened to come on the same day, and informed Mr. Samuel that they were sisters.

The principal points of interest consisted in the annular atrophic type of the lesion, its presumably unique co-existence in two sisters, and its identical distribution and characteristics in both patients.

Mr. Samuel asked for a confirmation of the diagnosis of Lichen planus annularis, and said that the lesions present on the legs in the second patient suggested the possibility of Parakeratosis variegata.

The President said these cases were, to him, of extreme interest. He did not remember that Tilbury Fox had described circinate Lichen planus, though doubtless he recognised it, because he saw the elder of these two patients. He was under the impression that circinate Lichen planus was first described by Unna about the year 1885, and he (the President) was one of the first to show examples of it before the Dermatological Society of London. Many members would not accept his diagnosis because the lesions were circinate, and regarded his cases as syphilitic. His own diagnosis turned out to be accurate. He had

* *Trans. Clin. Soc. Lond.*, 1872, v, p. 254.

no experience of the disease occurring coetaneously in two sisters, and could advance no views to account for it.

Dr. Graham Little said he had seen attacks of Lichen planus occurring nearly simultaneously in two sisters, who had suddenly lost their father and were thereby plunged into comparative poverty, and the eruption was ascribable to shock and general stress. Dr. Little drew attention to the frequency with which circinate types were occurring at the present time, when they were seeing a most unusual number of cases of Lichen planus, a frequency of the disease probably to be explained by the period of anxiety in which they were living.

Dr. Stowers said that he also remembered having seen two sisters who were the subjects of Lichen planus simultaneously. One of these, the less acute, was treated with arsenic, no vesiculation having appeared, but the other developed a number of small vesicles, no arsenical preparation having been administered.

Mr. Samuel replied that he did not consider the fact that both sisters had Lichen planus as a coincidence, because not only was the same disease present, but the type of the disease in both was identical, namely, the circinate atrophic variety—in itself much rarer than the ordinary papular Lichen planus.

Dr. E. G. Graham Little showed a case of (?) *Angioma serpiginosum in a woman*. The patient was a middle-aged woman, who had a large family, and worked hard. Rather more than twelve months ago she begun to note a pigmentation of the ankles and lower part of the feet, and this pigmentation had spread in the last few months up the thighs, until at the present time there was a retiform meshwork of a light brickdust colour, occupying the skin of the legs, thighs, and lower abdomen. The pigment was apparently produced by a sort of natural tattooing with a fine granular pigment, probably blood pigment, and distributed in the path of the superficial plexus of vessels. There was no history, and there was no symptoms of varicosity, in which condition a granular pigmentation was not uncommon. The wide extent, the retiform distribution, and the rapidity of later spread were features of the case. The patient suffered as well from some obscure pains in the limbs, and gave a history of an old facial paralysis, which had left a ptosis of the right eyelid. The pains were ascribed by Dr. Harris, who had kindly examined the patient since her exhibition at the meeting, as rheumatic conditions, and there was no obvious constitutional illness.

Dr. Corbett asked whether the pain which the patient suffered was not an unusual complication of this condition. It suggested to him some form of circulatory stasis.

The President said the two conditions might be interdependent on a common

cause. He asked whether the blood had been examined, and if so, with what result. It was a point of importance, as the patient was obviously very ill and the skin condition was progressive.

Dr. F. Parkes Weber asked whether pigmented cases of similar type had not been described under the name "Schamberg's disease." He did not refer to the bright-red cases of "infective angioma" or "Angioma serpiginosum."

Dr. Pernet asked if there was any syphilitic element in the case, because some writers laid stress upon that. The girl he showed at the Section, who was the subject of Angioma serpiginosum, had appeared to improve on mercury, but he had not seen her lately.

Dr. Graham Little, in reply, said he did not pay much attention to the pain, as it did not seem to be more than was usual with hospital patients who led hard lives. He did not believe enough was known about Schamberg's disease to discuss it usefully. He remembered seeing, when he was Dr. Pringle's assistant, a boy with Schamberg's disease of the legs, and that was the only case in which he got a section for histological examination. The clinical features of the cases shown as Schamberg's disease were very much like those in this case.

Dr. S. E. Dore showed a case of *dysidrosis and dystrophy of nails in a patient with Graves's disease*. The patient, a young woman, aged 23 years, had suffered from Graves's disease for three years, with marked enlargement of the thyroid gland, tachycardia, and fine tremor, but no exophthalmos. During the same time she had also had intermittent attacks of typical cheiropompholyx and dystrophy of all the finger-nails, which were deeply pitted and slightly separated at the free extremities, some of them having been shed and grown again. Atrophy of the nails had been recorded in connection with Graves's disease by Grainger Stewart and Gibson.* These changes, which were stated to have been present for one year only, might be independent of the general condition, or might be associated with the cheiropompholyx, but as far as he knew, there were no changes in the nails associated with dysidrosis, although such changes might be expected to occur if the disease was, as some thought, a variety of eczema. The sweating associated with the other symptoms of Graves's disease might be a causal factor in the dysidrosis in the present case. She had had three attacks of this eruption of the skin during the seven months he had known her, and she had had many attacks before that, principally in the summer months. The feet were not affected.

* *Edin. Hosp. Reports*, T.I., pp. 187–216.

Dr. GRAHAM LITTLE said a friend of his, a physician to a London hospital, had suffered yearly for many years from dysidrosis, and as he was a man of very exceptional experience and of trained observation he had contributed some interesting personal points. In all his attacks he had shown, as well as the usual eruption on the hands and feet, very curious circinate erythematous lesions not unlike Erythema iris on his body. He had formed the personal opinion that the eruption was associated with intestinal toxæmia, and had found that he had obtained greatest relief from a calomel purge.

Dr. F. PARKES WEBER said he did not think the condition of the finger-nails had anything to do directly with Graves's disease. As the patient said she had had the nail condition only one year, and had had the cutaneous trouble in the hands for about two years, the state of the nails was probably only a manifestation of the dystrophy of the skin of the hands.

Dr. PERNET said he believed nail changes had been observed in connection with Graves's disease, but the same nail changes might be due to various causes.

The PRESIDENT said the nail changes must be regarded as tropho-neurotic, and any tropho-neurosis might apparently be associated with Graves's disease —*e. g.*, Alopecia areata. He believed that nail changes of a degenerative nature had been reported in association with Graves's disease.

Dr. DUDLEY CORBETT showed a case of *sclerodermia*. The patient was a married woman, aged 54 years. There was nothing of importance in the family history. She had two children, who were quite healthy, and had not suffered from any previous illness. There was no history of syphilis. The menopause occurred three years ago. About eighteen months ago she noticed that her fingers felt very cold and that sores formed frequently round the nails and on the tips of the fingers. These sores started as small inflamed patches, which soon broke down and discharged pus. They were slow to heal, and those at the tips of the fingers, though small on the surface, seemed to extend deeply.

This last winter, during the last eight or nine months, she again suffered from the coldness of her fingers accompanied by the formation of sores, but the condition was worse than it was during the previous winter and was associated with gradual swelling of the fingers, which when cold went almost black in colour. At the same time the right hand and then the arm began to get stiff, the skin becoming hard, swollen, and somewhat pigmented. This process rapidly spread to the skin of the chest. Further, she had for the last six months noticed an alteration in facial appearance and a stiffening of the skin of the face.

She had lost a good deal of weight lately and had felt lassitude and disinclination for work. Her hair, which began to turn grey at

the age of 25 years, had been coming out rather excessively. During the last winter she had been troubled by frequency of micturition, having usually to get up once or twice in the night.

On admission to St. Thomas's Hospital she presented the appearance of a symmetrical sclerodermia involving the arms, chest, neck, and face, the remaining skin being normal. The temperature was normal or subnormal, and beyond the condition of the skin no morbid physical signs were detected in the chest or abdomen, nor apart from the dulling of sensation over the affected areas was there any demonstrable change in the nervous system. Her general condition was good except for slight nervousness, and apart from the stiffness caused by the condition of the skin she complained of nothing but some slight itching. The hands were stiff, the fingers being kept in a position of semiflexion. The skin was cold and clammy to the touch and slightly cyanosed. On the tip of the fingers could be seen the scales left by the ulceration which occurred last winter. The palms were apparently unaffected. Over the forearms the skin was markedly atrophic and tightly stretched, so that it could be pinched up and did not pit on pressure. It was rough and scaly on the surface. Over the neck and chest the skin also appeared tightly stretched, but its surface was smooth and glossy, and the induration was less marked. The skin of the face was generally stiff, the process obliterating the wrinkles and lines of expression, but mastication and deglutition were not interfered with. The forearms and backs of the hands presented a diffuse yellowish-brown pigmentation, which was also present, but to a less degree, over the chest and neck. Small atrophic patches about $\frac{1}{4}$ in. in diameter were scattered about, especially over the backs of the hands and fingers, but there were no definite patches of leucodermia or morphœa. Numerous fine branching telangiectases were scattered over the front of the chest and neck. Perspiration occurred normally over the palms of the hands, but in the regions implicated cutaneous secretions were abolished, and sensation was slightly diminished. The pulse could be felt in both radial arteries and the vessels were not apparently thickened. The blood-pressure was 125 mm. Hg. The thyroid gland was not enlarged, there was no exophthalmos, nor rhythmical tremor of the hands. The urine was acid, specific gravity 1010, and contained a trace of albumen.

There has been no rise of temperature since she has been in the hospital. She was being given 1 gr. thyroid twice daily and massage to the affected parts.

Dr. Corbett was indebted to Dr. J. J. Perkins for permission to show this case.

Dr. Pernet said that sclerodactylia was often preceded by appearances in the fingers resembling Raynaud's disease, which ultimately reached the stage of sclerodermia.

CURRENT LITERATURE.

TRICHOPHYTON VIOLACEUM VAR. KHARTOUMENSE. Albert J. Chalmers and Norman Macdonald. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 145.)

In this contribution a variety of the Trichophyton violaceum in the Anglo-Egyptian Sudan is described by the writers. The fungus was originally discovered by Sabouraud in 1892 in a man who came to Paris from West Africa, and since then it has been observed in North Africa, Ceylon, Brazil, Asia Minor, and widely distributed in Europe. The writers have only found it once in Egypt in a young Sudanese girl living in Khartoum, in whom it caused a typical Tinea capitis. On Sabouraud's maltose agar a violet growth was obtained from it after twenty-six days, consisting of a central knob on a violet-coloured plateau with well-defined radial grooves and surrounded by a white fringe. The fungus seemed to be a new variety, as it liquefied gelatine, which has not been observed in any other variety of T. violaceum. J. M. H. M.

A BULLOUS DERMATITIS CAUSED BY THE COLON BACILLUS. Alfred Potter. (*Journ. of Cut. Dis.*, 1915, xxxiii, p. 272.)

The patient was a young healthy woman who, four weeks after a normal labour and puerperium, was seized with a convulsion. Several such attacks occurred during the following week; ten days after the first attack a scarlatiniform eruption appeared on the forearms and face, with slight swelling and tenderness. The erythema disappeared from the forearms in three or four days, but persisted on the face over the right temporal region. A bullous eruption next appeared on the forearms and gradually spread to the face, shoulders, buttocks, and lower limbs. The bullæ varied from a half to three-quarters of an inch in diameter, and arose from a normal skin with no inflammatory halo surrounding them. New bullæ kept appearing throughout the course of the disease. There was an irregular septic temperature reaching 103° F. Blood cultures and all other findings were negative, except the cultures from the bullæ, which showed a bacillus of the colon type.

The patient recovered after an illness of six weeks. J. M. H. M.

A CASE OF MYCOSIS FUNGOIDES, LIMITED TO ONE FOOT.

Francis E. Senear. (*Journ. of Cut. Dis.*, 1915, xxxiii, p. 351.)

This case, which occurred in a woman aged 46 years, was peculiar in that the disease was limited to one foot. From a point a short distance above the ankle to the sole of the foot the skin was thickened, infiltrated, and of a dusky purplish colour, and scattered through this area were numerous tumour masses varying in size from a split pea to a pigeon's egg. These tumours were boggy to the touch, and some had broken down to form indolent ulcers with a necrotic base and a thick sero-purulent discharge. The condition was of six years' standing, and had begun as a pea-sized lump on the foot, which was shortly followed by intense pruritus of the foot and lower part of the leg. Diagnosis from multiple idiopathic sarcoma of Kaposi was difficult, but was based chiefly on the occurrence of the disease in a woman and the marked tendency to ulceration. Microscopical examination of sections of a tumour showed all the appearances which are usually described in connection with the histology of Mycosis fungoides. The condition was treated by exposures to the X-rays with brilliant results, the ulceration healed, the tumours involuted, and the skin—though still purplish and pigmented—became smooth and clean. J. M. H. M.

ATROPHODERMIA BIOTRIPTICA IN NATIVES OF THE ANGLO-EGYPTIAN SUDAN.

Albert J. Chalmers and C. M. Drew. (*Journ. Trop. Med. and Hyg.*, May 1st, 1915, p. 93.)

Atrophodermia may be divided into (*a*) Atrophodermia symptomatica, due to injury or disease, and (*b*) Atrophodermia idiopathica. In the idiopathic group are included: (1) Atrophodermia idiopathica progressiva, (2) Atrophodermia chronica atrophicans, (3) Atrophodermia maculosa, and (4) Atrophodermia senilis, to which may be added Blepharochalasis (Fuchs), and Kraurosis vulvæ.

Senile atrophy of the skin is of two varieties—a simple quantitative atrophy, in which all the tissues undergo reduction, and degenerative atrophy, which is qualitative and characterised by special changes in the connective tissue of the corium.

"Biotripsis or life-wear" is the name given by G. L. Cheatle to the trophic changes which occur in old age in skin which has been subjected to the greatest exposure to the wear and tear of life. The exposed parts of the skin of seamen, coachmen, agricultural labourers, and the like, become very like the conditions observed in senile degeneration. In the African tropics Christy observed that a similar appearance occurs on the apex of the shoulders, over the deltoids, and on the shins of elderly natives of both sexes.

Chalmers and Drew point out that the degenerative changes do not occur in every old person, and are only in limited areas of skin in any one case.

The histological changes found were as follows:

The epidermis was thinner than normal. The only change in the *Stratum germinativum* was that the cells were smaller than usual and a little more granular. The *Stratum Malpighii* was thinner and the cells more pigmented than is usual. The *Stratum granulosum* was composed of one layer of very long and very granular cells with normal nuclei. The *Stratum lucidum* was well

developed, but the *Stratum corneum* was much thinned, and its superficial layers were so loosely connected as to show almost a network in vertical sections.

The corium showed subnormal development of the *Pars papillaris*, and the vessels were dilated. In the *Pars reticularis* the connective tissue was ill developed and the vessels and lymphatics were dilated. Adipose tissue was absent from the subcutaneous layer, the sweat glands were apparent, but no hairs were found in any of the sections examined, and no sensory corpuscles were observed in the papillary layer. The elastic fibres did not appear to be reduced in size or number, and this observation differentiates biotriptic atrophodermia from the degenerative form of senile atrophy. From Atrophodermia chronica atrophicans the condition is distinguished by the absence of laxity of the skin (anetodermia) and by the absence of a history of preceding inflammation, the latter feature also being a special antecedent of Atrophodermia idiopathica. From Atrophodermia maculosa (white spot disease) biotriptic atrophy is distinguished by its diffuse character.

The authors conclude that the condition is not dependent upon old age *per se*, but upon some, as yet, obscure pathological factors.

The paper is illustrated by micro-photographs of sections. J. H. S.

ERYTHEMA ANNULARE IN EPIDEMIC FORM. Aage L. Fönss. (*Ugeskrift for Læger*, January 28th, 1915.)

Seven cases were observed, of which one is described.

F., aged 9 years, became ill five days previously, when there appeared an erythema which commenced on the face and then spread to over the trunk and extremities. The erythema was of varying intensity, showing remissions and exacerbations, the latter especially in the warmth. The eruption, which was most pronounced on the extensor surfaces of the limbs, consisted of an erythema of a bright red colour. This had seemed to begin as a spot of redness and to grow with peripheral extension to form an annular lesion with rapid blanching in the centre. When the patient first came under observation there were present many red rings becoming confluent, with some larger plaques with a pale centre and hyperæmic margin. On the face there was a more diffuse redness, especially upon the cheeks. No desquamation or infiltration. Occasionally slight itching. No affection of the buccal or of the pharyngeal mucous membranes. Tongue normal. No enlargement of glands, no joint trouble and no sign of any catarrh. Two days after the first appearance of the rash there had been some slight headache, lassitude and loss of appetite, with perhaps some slight pyrexia. On the third day after her appearance at the "poliklinik" the eruption had disappeared; the urine showed a strong albumen reaction. Microscopical examination revealed granular casts, numerous red cells, some epithelial cells, and a quantity of uric acid crystals.

One sister, aged 6, showed an exactly similar condition with a less rapidly disappearing eruption, which had not entirely vanished until the seventh day after she had come under observation. On one day only was there a trace of albuminuria.

Five other cases were observed: (1) A sister of the above two patients, (2) a female cousin, (3) a playmate, (4) a young girl who had been visiting the house of

the three affected sisters, (5) a case who had apparently no connection with the others.

In all these patients the erythema was of the same character as already described, but of varying extent. Thus in one case the eruption was limited to the face and extensor surfaces of the forearms, where it was particularly ringed, while in another the lesions were as pronounced on the extremities as on the trunk. Two of the patients showed universal micropolyadenitis; one of these had also slight retro-auricular and occipital glandular enlargement. Otherwise there was no characteristic glandular swelling. None of the cases had any affection of the buccal or pharyngeal mucous membranes nor of the tongue. They did not appear to have had in any case any pronounced fever, and no terminal desquamation was noticed.

All save one lived in the same immediate neighbourhood. The age of the youngest patient was 6 and of the three eldest 17 years. Among the school children in the same classes as three of these patients no other cases were discovered.

While this disease cannot be likened to any of the ordinary infectious fevers of children it appears to be somewhat allied to Erythema infectiosum (Megalerythema epidemicum). Compared with this last-named disease the cases here reported show some few distinctions. The length of the incubation time is shorter, viz. four to six days. On the face the erythema was of a more diffuse uncharacteristic appearance. (In most of the cases the lesions on the face were either fading or had entirely disappeared when examined for the first time.) The erythema on the limbs was in each case of a pronounced annular type and so was not quite in agreement with the festooned appearance described as being characteristic of Erythema infectiosum. The duration of the eruption and the rest of the observations agree in both conditions, though there appeared to be evidence of direct infection in the author's cases and no sign of any "enanthem," while in two of these some affection of the kidneys was observed. W. J. O.

ANIMAL INOCULATIONS OF TRICHOPHYTON DISCOIDES SABOURAUD. 1909. A. J. Chalmers and N. MacDonald. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 122.)

The present contribution is the fourth of a series of papers by Chalmers and MacDonald upon Tinea capitis tropicalis in the Anglo-Egyptian Sudan. In it the writers report some experiments in which certain animals were inoculated with the T. discoides. They believe that the T. discoides probably comes from horses, as Bang's cases appeared to have been infected from a horse, and Bodin, in 1896, described an epidemic, affecting thirty-eight horses in a stable at Clichy Levallois and spreading from them to five persons, which was started by the introduction of an affected horse from Denmark. Bang's researches were also carried out in Denmark.

The experiments by the writers consisted of the inoculation of T. discoides on a bull and a donkey. The fungus was obtained from a sub-culture after many generations of life in artificial media. The bull remained free from infection twenty-five days after the inoculation, whereas the donkey began to show signs of the ringworm on the eleventh day, the fungus being recovered from it in pure culture. This experiment tended to show that the infection of the Egyptian

soldier with T. discoides, which forms the basis of these communications, probably came from a donkey, as he had been working with these animals in the Zagazig district of the Nile delta. It also tended to support the view that T. discoides is a parasite of equines and that man acquires his infection from them.

J. M. H. M.

MULTIPLE BENIGN CYSTIC EPITHELIOMA, WITH A REPORT OF FOUR CASES. J. W. Miller. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 462.)

In this communication four cases of this somewhat rare affection are described.

Case 1.—A married woman, aged 51 years, who presented various sized growths upon the scalp, in both axillæ, and in the pubic regions, consisting of nodules varying from a pea to an orange in size and of a pinkish or deep red colour. There were no subjective symptoms associated with the lesions. The microscopical appearances were those of Tricho-epithelioma.

Cases 2, 3, and 4, occurred in a brother and two sisters, aged 18, 22, and 28 years respectively. The nodules were situated in the naso-labial furrows, at the inner sides of the orbits, on the temples, upper lip, chin, and scalp. The majority were the colour of the skin, while others had a yellowish waxy appearance resembling the pearly border of a rodent ulcer. Microscopical sections showed islands of epithelial growth arranged in finely branched arboreal figures. The cells were of the basal type, and some of the masses had undergone central degeneration to form cyst-like cavities. The tumours probably had their origin in the hair follicle or the sweat glands.

J. M. H. M.

REVIEW.

The Occupational Affections of the Skin.*

The scope of this book is indicated in the preface. Dr. White found that although there was a good deal of literature on the subject of occupational diseases, it was so scattered through different journals that it was difficult to look up any given case without considerable labour. He therefore set himself the task of collecting the literature in book form, and for so doing the medical profession owes him a considerable debt of gratitude. Writing as one who has taken a special interest in these forms of skin-disease I feel that I have perhaps the right to say "Well done!" The book is small in size and arranged in an orderly manner, the writing is clear, and the descriptions are precise and informing. It is a book which well repays reading through, and will be useful to have within easy reach for future reference.

A. W.

* *The Occupational Affections of the Skin.* By R. Prosser White, M.D. London: H. K. Lewis & Co., Ltd. Pp. x + 165, and 3 plates. Price 7*s.* 6*d.* net.

THE BRITISH
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A CASE OF FOLLICULOSIS (FOLLICULITIS?) DECALVANS ET LICHEN SPINULOSUS.

By WALLACE BEATTY, M.D., F.R.C.P.I.,
Physician to the Adelaide Hospital.

With Report on Microscopical Appearances by

JOHN SPEARES, M.B.,
Assistant to Prof. O'Sullivan, School of Pathology, Trinity College, Dublin.

Mrs. Alicia C—, aged 43 years, came to the Dermatological Clinic of the Adelaide Hospital on March 18th, 1915, on account of an affection of the scalp and upper part of the body, a combination of cutaneous symptoms unlike any combination I had ever seen previously. The scalp condition alone suggested Folliculitis decalvans, while the body state resembled Lichen spinulosus as occasionally seen in children, though of a coarser kind.

Her history and condition are as follows: Healthy when a girl; her only trouble was irregular menstruation. Married eighteen years; has had seven pregnancies. The first, a miscarriage. The second, a dead born child. The third, child born healthy, died at age of 14 months from a fall. The fourth, fifth, and sixth, three healthy girls (now 9, 7, and 5). The seventh—last pregnancy—child born dead at full term. Her hair began to fall out about ten years ago; she says it came out in patches, gradually, without soreness; leading after some years to its present condition of almost universal baldness. At the beginning of the fall hair used to appear to grow again.

Where the hair fell out it left the surface, she says, quite "clean." There was no redness except at the back of the head; the skin of the vertex was smooth and white. Itching of the head was at times troublesome. The eruption in the body began last February, 1915, as a roughness of the skin. It appeared first on the upper part of the chest anteriorly and spread. It was itchy. Similar roughnesses developed on the scalp, as will be presently described.

Present condition.—Condition of the scalp.—The greater part of the scalp is smooth and bald and presents a cicatricial aspect, showing fine wrinkles when folded. Here and there are small islets of follicular prominences; some of these prominences are pierced by short hairs. The prominences are due to dry horny matter, hard to the touch, projecting about $\frac{1}{2}$ mm. from the follicular orifices. Where short hairs are present the horny scale forms a collarette for each. The short hairs of these islets vary from about $\frac{1}{8}$ to $\frac{3}{4}$ in. in length; in some of the follicular islets the hairs scarcely project or are wanting. To the touch the affected follicles of each islet are rough, nutmeg-grater-like. While the greater part of the scalp is bare except for a few short hairs here and there, long hairs form a narrow fringe above the forehead; among these long hairs there are groups of follicular papules—dry, brownish, horny projections, pierced by hairs, like small, circular brownish crusts, more soft to the touch than in other places. Long hairs are also present at the lower part of the occipital region; here, too, are groups of follicular papules. There are also a few long hairs over the lateral part of the scalp. At first sight, and from a distance, the scalp resembled that of a severe favus. My colleague, Geoffrey Harvey, and I both noticed this superficial resemblance (Fig. 1). The face is quite spared. The auricles and their immediate surroundings are affected as will be described.

Neck, body, and limbs.—Groups of follicular elevations, some with markedly projecting horny spines such as are seen in Lichen spinulosus of children, are present on the neck, back and front, on the front of the chest, especially laterally over the anterior axillary folds, round the areolæ of the breasts, in the axilla, over the skin of the posterior axillary folds, over and around the vertebra prominens, over scapulæ, over arms and forearms mainly on their extensor surfaces, and on the dorsum of the hands: also on the extensor surface of the knees and adjoining part of the extensor aspect of the

Photo, by Mr. J. Manby.

Fig. 1.—Shows bald state of scalp and groups of follicular horny plugs.

TO ILLUSTRATE DR. WALLACE BEATTY'S CASE OF FOLLICULOSIS (FOLLICULITIS?) DECALVANS ET LICHEN SPINULOSUS.

thighs and legs, and on the flexor aspect of the lower part of the legs and ankles and on the dorsum of the feet. The lower part of the trunk is almost spared. Papules are present on the pubic region; here the hairs are wanting; also on the gluteal region. On the front of the body the follicular papules reach down to a little below the breasts. The skin of the abdomen, except for an occasional papule, is unaffected.

I shall now give a more detailed account, taking each region separately.

Scalp.—Its condition has been fully described.

Neck and auricles and their surroundings.—On the front and sides of the neck are groups of follicular papules. Over the mastoid region the lesions are closely set, their spines hard. They are also present over the skin in the front of the tragus of the auricles—closely set small papules causing extreme roughness to the touch; these papules adjoin other groups among the long hairs of the scalp above the temples. Minute, papular, close-set lesions also occur on the helix where it adjoins the tragus. Areas of minute prominences are present within the concha of each ear and in the triangular hollow between the upper part of the helix and the antihelix. The skin over the nape of the neck, and laterally to it is closely set with brown follicular horny elevations.

The front and sides of the thorax and the axillary regions.—Groups of follicular papules are specially noticeable over anterior axillary folds; here the spines project markedly, as can easily be seen by viewing the surface obliquely. Some small elevations are present above the areolæ of the breasts. The midsternum (as also the central interscapular region) is very little affected. In the axilla are a very few lesions, a few small groups of spines, three to six in each group, and a few isolated lesions. The spines in this region are extremely fine, hair-like. There are very few axillary hairs. Below axilla, over the lateral part of the thorax to the level of the nipple, there are scattered and small follicular elevations.

Back of thorax and posterior axillary folds.—The skin of the posterior fold of the axillæ is densely affected and presents a kind of square mosaic or lichenisation. Over the skin covering the scapulæ groups and lines (single-file lesions) of follicular spines are present. A patch of closely set follicular papules, rough, like a nutmeg grater,

is present on and around the vertebra prominens. Below the level of the inferior angle of the scapula the trunk is free.

The shoulders and upper extremities.—The skin of the top of the shoulder, and of the upper part of the arm in deltoid region is closely beset with large follicular projections (Fig. 2). These lesions extend in less abundance, and mainly on extensor surface of arm to elbows, and on extensor and lateral parts of forearm to the back of the hands. The close set papules form a sort of mosaic on the forearms. The juxtaposed spines on the extensor aspect of the forearm near the elbow resemble in miniature the outer surface of a pine-apple (Fig. 3).

On the dorsum of the hands are a number of scattered horny follicular elevations, very few on the left hand, but abundantly on the dorsum of the right hand. The follicles over the dorsum of the first phalanges of some of the fingers are prominent, as one sees in Pityriasis rubra pilaris. The flexor surface of the upper extremities is only sparsely affected; however, near the wrist over the lateral aspect of the lower part of the forearm the lesions are abundant. The appearance of the outer part of the upper half of the arm is specially remarkable. The follicles are affected in an almost continuous sheet. Here each follicle is filled with a brownish epithelial plug projecting as a blunt spine, while the perifollicular region forms a pink elevation surrounding the spine, as will be more particularly described presently. The surface of this region presents a general brownish colour quite like the appearance shown in the plate representing Darier's disease in the *International Atlas for Rare Skin Diseases* (Schweninger's and Buzzi's cases).

The lower extremities.—Over the extensor aspect of the knees and for a short distance on the thighs and legs above and below the knees are closely set spines. The back of the legs behind and above the ankles is also rough with spines. The buttocks where pressure comes when sitting and the upper extensor part of the thighs are affected also.

The eruption, therefore, involves the scalp, the upper part of the trunk, the neck, the auricles with their surroundings, the upper extremities, the lower part of the buttocks, the region of knees, and ankles on the lower extremities. It would appear that parts liable to friction are specially, but not exclusively, involved, *e. g.* shoulders, nape of neck, posterior axillary folds, knees, buttocks.

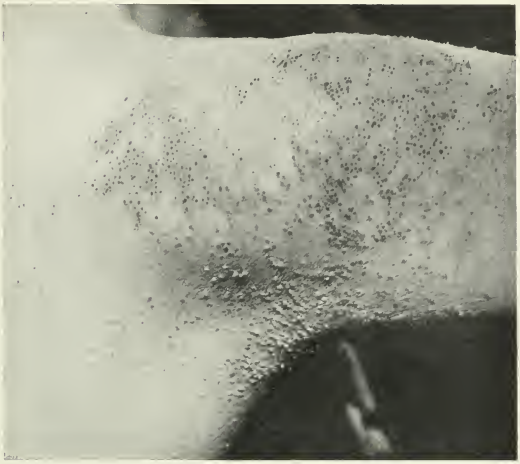


Photo. by Mr. J. Manby.

FIG. 2.—Shows Lichen spinulosus condition.

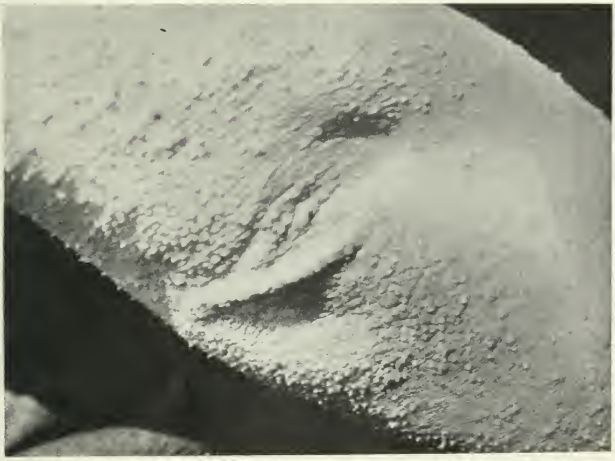


Photo. by Mr. J. Manby.

FIG. 3.—Shows pine-apple appearance.

TO ILLUSTRATE DR. WALLACE BEATTY'S CASE OF FOLLICULOSIS (FOLLICULITIS?) DECALVANS ET LICHEN SPINULOSUS.

The lesions are all follicular and arrange themselves in groups. In places, groups have coalesced to form a diffuse tract, but even here a small islet of unaffected skin is seen here and there which together with the obvious grouping in other places proves that the universal tendency is to a grouped arrangement.

Where the papules form tracts of eruption the condition resembles a lichenisation, a mosaic pattern.

The study of the individual papules reveals the following: They are all connected with the hair-follicles. They vary in size, some, the largest, having a base of about 3 mm. diameter, others less, 1–2 mm. Each papule, whether larger or smaller, presents a kind of raised angular base (scarcely noticeable in the smallest), or pedestal or foot, from the centre of which projects a horny spine 1 to 1½ to 2 mm. in length.

In the case of some papules, especially the larger ones, the foot is of a pale pink colour and the horny projections brownish. The total effect of the pink and brown, a combination very noticeable in some places, is a reddish-brown colour.

Many papules, however, show a base of the same colour as the skin, and the spiny projections are greyish. The brown coloration is specially noticeable where the papules are large and closely set, as over the deltoid regions; here the papules form an almost continuous sheet.

In the larger papules the spine is usually blunt, more or less hard to the touch; the spines projecting from other papules, chiefly the smaller ones, are sharp. These spines are in places very fine and hair-like. This is specially noticeable in the axilla and over the anterior axillary folds.

When the spiny projection is picked out, whether from the papules on the scalp or on the body, a hole remains like that produced by a large pin-prick in a piece of cardboard. Each follicular plug or spine can be picked out with a needle and comes out entire as one would pick out a thorn.

To recapitulate. There occurred first, some ten years ago, a shedding of the hairs of the scalp, leaving a smooth, bald surface; the loss of hair was gradual, finally ending in almost total loss. The loss of hair occurred painlessly, without any eruption—"cleanly," as the patient expressed it. The skin of the scalp underwent atrophy.

In February of this year, 1915, an eruption of spiny prominences appeared, first on the front of the chest, and soon after in the other above-mentioned places, including the scalp. Some of these prominences affected the follicles of the long hairs remaining in front and back of scalp, others affected empty follicles or follicles with short hairs. Therefore, from the patient's statement, it would appear that the baldness occurred without any obvious follicular eruption, and took years to reach its present extension; the grouped follicular spinous eruption commenced a few months ago and involved the scalp as well as part of the body.

Remarks.

I felt greatly puzzled as to the nature of this case, and could find no parallel in dermatological literature until I came across the report of a case by Dr. Graham Little in the May number of the *British Journal of Dermatology*, "A Case of Folliculitis decalvans et atrophicans."

My case bears a very remarkable likeness to his—the slow shedding of the scalp hairs dating back ten years and the acute onset a few months ago of a condition like Lichen spinulosus on the body. Indeed, the description given by Graham Little of his case would almost suit for mine. His case was sent to him by Dr. Lassueur, of Lausanne. Strange to say, the very same thoughts which Lassueur had passed through my mind also.

Darier's disease occurred to me as to him, but the loss of hair on the scalp (the hair is preserved in Darier's disease) was against this diagnosis. Lichen spinulosus is a disease of children (quite rare in Dublin) and does not attack the scalp.

Most of the spinous lesions were coarser than is usual in Lichen spinulosus of children.

Till I read the account of Graham Little's case I was inclined to think that the old-standing scalp condition and the recent Lichen spinulosus-like eruption were independent of each other.

With the same combination in Graham's case, and again in a case reported in the July number of the *British Journal of Dermatology* by Dore, there seems a justification in regarding the two conditions as a clinical unity.

I therefore propose to call this combination of atrophic baldness of the scalp and Lichen spinulosus "Lassueur's and Graham Little's syndrome."

In my case there is not certain evidence of the loss of hair having been due to an inflammation. I therefore hesitate to use the word folliculitis. In place of the word folliculitis I have used a word borrowed from Darier, "Folliculosis," meaning an affection of the hair-follicles, whether inflammatory or not. In the June number of the *British Journal of Dermatology* Graham Little reports that there were no "corps ronds" found in a section of a portion of skin taken from the axilla of his patient.

Therefore Darier's disease appears to be excluded in his case; but I shall discuss this question presently.

Dr. John Speares undertook two investigations for me. I thank him for the amount of time and trouble he spent in studying the pathological anatomy of this case.

The investigations concerned:

(1) The question of a syphilitic condition. He was able to exclude this by finding a full negative Wassermann. He found the blood normal on microscopic examination.

(2) The histology of the lesions. The portion of skin he examined was excised by Mr. T. E. Gordon from the extensor aspect of the arm near the shoulder. Here the spines were large and brown in colour and the projecting base pinkish.

DR. JOHN SPEARES' REPORT ON THE HISTOLOGY OF THE LESIONS.

Epidermis.—Stratum corneum.—The horny layer is thickened. The hair-follicles are filled with horny plugs which project on the

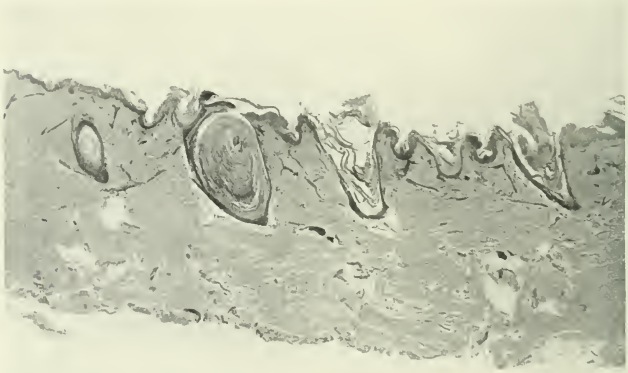


Photo. by Mr. J. Manby.

FIG. 4.—Section, low power, showing general structure.

surface (Fig. 4). Towards the base of these plugs there are oval bodies somewhat larger than epithelial cells, but some smaller. Four of these bodies are shown in the accompanying photographs (Figs. 5 and 6). They all contain a delicate protoplasm and one of them shows a definite nucleus. A peculiarity of these bodies is that they are enclosed by a double membrane, apparently of horny nature as it stains with picric acid. In several parts of the stratum spaces are to be seen which probably had held bodies as described above.

Stratum mucosum.—The cells in the deeper layers of this stratum are dense and show a curious tendency towards spindle form. The interpapillary portions are, in some parts, prolonged into the corium.

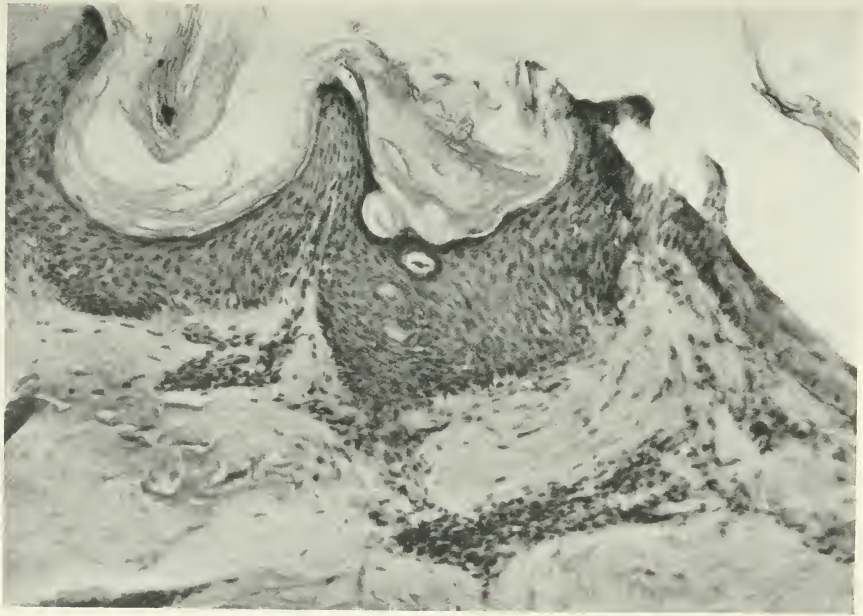


FIG. 5.—Section showing "corps ronds." *Photo. by Mr. J. Manby.*

TO ILLUSTRATE DR. WALLACE BEATTY'S CASE OF FOLLICULOSIS (FOLLICULITIS?) DECALVANS ET LICHEN SPINULOSUS.

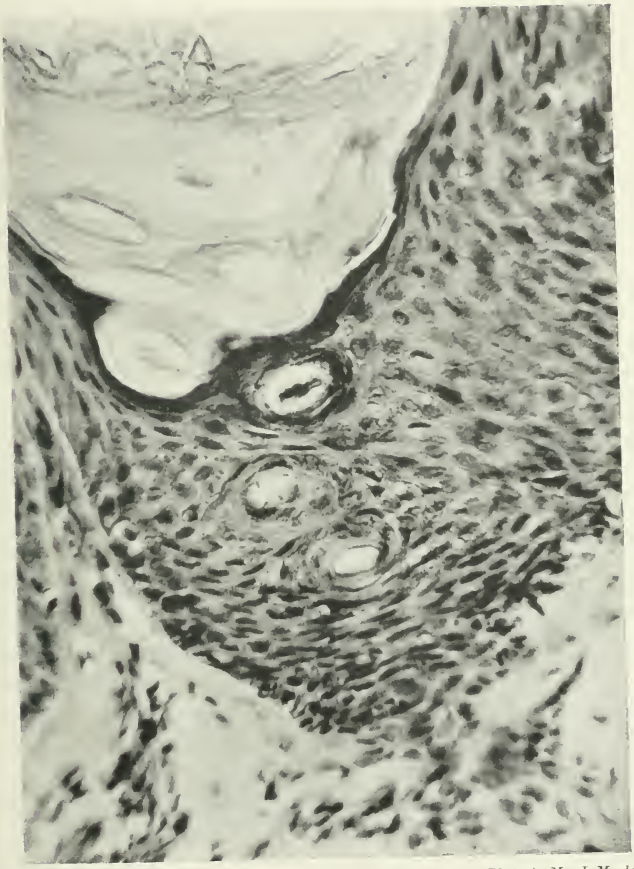


Photo. by Mr. J. Manby.

Fig. 6.—Magnified view of Fig. 5.

TO ILLUSTRATE DR. WALLACE BEATTY'S CASE OF FOLLICULOSIS (FOLLICULITIS?) DECALVANS ET LICHEN SPINULOSUS.

The chief interest lies in the presence of spaces, and certain bodies which appear to correspond with those found in the horny layer. The illustrations (Figs. 5 and 6) show one of these spaces and two bodies. The cells of the stratum mucosum around these bodies are compressed. The outer sheath of the hair-follicle is irregularly thickened, and frequently shows spaces between the cells and a nucleus which has been pushed to one side.

Corium.—The corium is dense. There is a small-celled infiltration around the blood-vessels and around the hair-follicles. The glands are normal. There were no organisms found in stained preparations. The examination in the fresh state of two plugs or spines picked out with a needle and teased in caustic potash solution showed the presence of bodies similar to these illustrated and described.

Conclusions.

If the presence of "corps ronds" such as Darier has described in his cases of "Psorospermose folliculaire Végétante," and which Speares found in my case, are peculiar to this cutaneous malady, then, from the histological findings, my case must be regarded as an unusual form of Darier's disease.

Clinically, Dr. Graham Little's and Dr. Dore's cases appear to be of the same nature as mine—in each a previous slowly progressing folliculitis decalvans (ten years before the body eruption in Graham Little's case; two years in Dore's), then an acute outburst of follicular lesions resembling Lichen spinulosus—but Graham Little, as stated above, found no "corps ronds" in his sections.

In this connection it is noteworthy that Speares' first few sections did not show these bodies; it was only after the study of a large number of sections that he established their presence. These bodies are not numerous and so might be missed.

In the discussion on Graham Little's case exhibited at the Dermatological Section of the Royal Society of Medicine, Dr. Pringle and Dr. Sequeira were inclined to regard the body eruption as Darier's disease.

Whether these three cases, Graham Little's, Dore's, and mine (all three women, aged 55, 43, 43 years) are or are not examples of a peculiar, hitherto undescribed, variety of Darier's disease, the combination of folliculitis decalvans and Lichen spinulosus can hardly be

regarded as a mere coincidence. Rather, the combination represents a clinical unity which we may expect to hear of again.

I wish to thank Mr. J. Manby for his excellent photographs of the clinical and histological appearances.

PARAPHENYLENE DIAMENE DERMATITIS.

By J. L. BUNCH, M.D., D.Sc., M.R.C.P.,
Physician for Skin-Diseases to the Queen's Hospital for Children and to the Hospital for Skin-Diseases, Leicester Square.

Several cases have recently come under my care of severe dermatitis caused by the application of hair-dyes. In most cases the dermatitis is preceded by itching, frequently severe, but occasionally the skin-lesions are not heralded by any such subjective sensations. The scalp and face are most frequently affected, the skin becoming markedly erythematous, with a feeling of intense burning, followed by the appearance of numerous vesicles, which become confluent and give the appearance of a "weeping" eczema. In severe cases, the whole of the face becomes red and œdematous, the eyelids especially swell up so that the eyes are practically closed, and the inflammation may extend down the neck to the chest and back. In such cases, the skin remains red and inflamed for days, and only assumes a normal appearance again when the direct effect of the irritant has passed off and soothing lotions or creams have been applied. When such inflammatory symptoms have followed the first application to the scalp of any dye, it is probable that a definite idiosyncrasy exists in that patient to some chemical substance contained in that particular dye, and also, as a rule, to similar allied chemical compounds when applied externally in sufficient strength. But sometimes no evil consequences result from the first or second application of the dye, and it is only after several successive applications that the scalp becomes inflamed and the previously mentioned symptoms of dermatitis result. In such cases the idiosyncrasy is evidently less marked, and the probability of anaphylaxis arises. It is, indeed, difficult to explain such cases on another supposition, if the intervals between the successive applications of the dye are sufficiently long. Patients who have previously suffered from any acute dermatitis are

naturally more predisposed than others to react to any external chemical irritant, and it is in such individuals that hair-dyes most frequently produce untoward results.

Although these inflammatory reactions are most frequently the sequelæ of applications of paraphenylene or para-amido bases, made from an aniline, or an alkali-phenol derivative, they not infrequently result also from a dye made from a metallic salt, especially when combined with pyrogallic or nitric acid. These dyes are, as a rule, made from a salt of lead, mercury, bismuth, or silver, and a second solution, used after the first has thoroughly penetrated, and applied also to the hairs and hair-roots, contains sodium sulphite or pyrogallic acid, or some oxidising or reducing agent. Much less harmless dyes are the so-called "progressive" hair-dyes, such as the well-known combination of a solution containing lead-acetate in rose-water with free sulphur, which colours the hair and discolours the scalp—and the pillow—after several applications. A similar dye, frequently used, is a paste made of henna and other substances applied for a couple of hours to the scalp at a temperature of 45° C. under compresses of cotton-wool maintained at a similar temperature. The tint obtained by the application for two hours of such a poultice becomes very much darker in a day or two by oxidation in the air, but the hair coloration is rarely equal, and the client, whose hair has been thus treated, has a tendency to become restive and seek some other more satisfactory method.

A more rapid and equally innocuous dye is a tincture, or ointment, containing walnut-juice, and this can be adapted to a considerable range of tints short of black, but it has the disadvantage of not being permanent and of not resisting in most cases the devastating effects of a soap shampoo.

But such dyes are much less satisfactory to the average patient than the instantaneous and, for a time, permanent dyes such as paraphenylene diamene and para-amidophenol. In spite of the possible dangers attaching to the use of such substances, these dyes are the ones most extensively employed by professional coiffeurs, not only because the required tint can be obtained in the comparatively short period of three quarters of an hour, but also because the gamut of tints is practically unlimited, and a thoroughly natural restoration of the hair colouring before the client departs can be absolutely assured.

Whether the hair has to be dyed the darkest black, or the lightest blonde, or any intermediate tint of auburn or brown, this can be done with certainty by a solution of paraphenylene diamene or para-amidophenol, using the former more especially for the darker tints, and the latter for tints varying from auburn to very light blonde. Moreover, the staining of the hairs by means of these dyes is very thorough and penetrates not only from without inwards as far as Huxley's sheath, but also colours, although not so deeply, the medulla. On the other hand, vegetable dyes, such as henna, only penetrate a short distance, even after the most thorough oxidation, and the permanency of the coloration is, in the latter case, very much less.

Para-amidophenol is well known commercially as Rodinal, and the methyl-sulphate salt—Metol—is, of course, extensively used in photography as a developer. The amidophenol compounds, as well as the diamines, are very readily oxidisable, even in the air, but, in order to ensure a rapid coloration, the coiffeur mixes with the dye, ten minutes before application, an equal quantity of hydrogen peroxide solution. After thorough shampooing with soap and water, the mixture of peroxide and dye is carefully applied with a brush and allowed to remain in contact with the grey or faded hair for half an hour, and the scalp is then shampooed once more, any staining of the skin being removed with a little vaseline.

Even in patients whose skin is not especially sensitive and does not react promptly to rough soaps, alkalis, the contact of wool, etc., and who are not urticarial subjects, the neglect of the second thorough shampoo, or the postponement of this shampoo for an hour after the application of the dye, is often sufficient to set up a subacute dermatitis, accompanied by troublesome pruritus, if nothing more. In predisposed individuals, however, such a neglect of the ordinary methods of precaution is sufficient to start a severe dermatitis, with the usual œdema, vesiculation, and pustulation. With regard to such predisposition, photographers have told me that they are acquainted with individuals in their business who show a special predisposition to toxæmia from such substance as metol, rodinal, and iconogen, and are immune from poisoning from developers, such as pyrogallol. Others, again, are very susceptible to pyrogallic poisoning, but not to poisoning from the other developers already mentioned. I saw quite recently an employé of, I believe, the largest picture-post-card printing factory near

London, who was suffering from severe dermatitis of the hands and arms. He only handled the post-cards after they had been developed, but the company had been experimenting with a new cheap developer, and he told me that a large proportion of the staff engaged in similar work had developed a similar dermatitis. In this case there seemed to be no question of idiosyncrasy, but of a powerful chemical irritant. Hair-dyes of a similar irritating character have at times been placed on the market, but always to the owner's profit. A recent law-case may be recalled, where damages were given against the proprietors of a hair-dye, because it stained the purchaser's hair a magenta colour—quite apart from the question of associated dermatitis.

The toxæmic substance, in the case of paraphenylene diamene, is chinondichlordiimin, a by-product of its oxidation. This substance has been shown experimentally to be a violent irritant, and it is undoubtedly an intermediate stage in the oxidation of paraphenylene diamene to its harmless, non-irritant end product. But chinondiimin not only polymerises very easily, but also combines readily with other chemical substances, and also with the final end product previously mentioned, so that it is difficult to prove that the inflammatory symptoms produced are not in some cases at least due to derivatives, or chemical compounds of chinondiimin. On the other hand, the chinon compound can be oxidised by the addition of sodium bicarbonate, or transformed by the addition of sodium sulphite into a sulphur compound, both innocuous, and yet a solution of paraphenylene diamene, treated by such means, may in some predisposed individuals still cause well-marked inflammation. So that it appears as if other substances than chinondiimin, produced during the oxidation of paraphenylene diamene, can also have well-marked irritant effects, although perhaps less frequently.

The final non-irritant substance produced by the oxidation of paraphenylene diamine is called Bandrowski's base, and it is to this that the darkening effect of the dye is due.

One factor in the rapid production of inflammatory symptoms after the use of this dye is the permeability of the skin. This is to a certain extent increased by the use of hydrogen peroxide, which has a mordant effect not only on the hair, but probably also on the epidermis of the scalp. Then, again, in women who dye their own hair—and many do—incomplete or neglected shampooing afterwards

is made more dangerous by a mass of more or less thick hair heaped up over the scalp and acting as a sort of compress or non-conductor.

These cutaneous symptoms are, as already stated, due to chinondiimin, its polymers, or derivatives; but still more severe systemic effects may be produced by absorption of pure phenylene diamene. These are giddiness, tinnitus, clonic and tonic contractions, and gastro-intestinal symptoms such as sickness and diarrhœa in the human subject. Experiments on rabbits show that intra-peritoneal injections of small doses of a weak solution of phenylene diamene at intervals of ten minutes are well supported until a dose of 0·1 grm. per kilo of body-weight has been administered. At this stage some inflammation and irritation of the nasal mucous membrane shows itself, and there is swelling of the lingual papillæ. If then an additional 0·02 grm. per kilo body-weight be similarly injected at the same intervals, supra- and sub-lingual œdema becomes so marked that the entry of air is partially blocked and respiration becomes difficult. The rabbit now eagerly drinks any water that is offered to it. If the dose is increased to 0·18 grm. per kilo of body-weight, the respiratory symptoms become more marked, the œdema increases, and the animal dies about an hour after the last injection. If the same dose of a solution of paraphenylene diamene is administered by the stomach through a cannula the toxic effects are much more rapidly developed, and the animal develops tonic or clonic contractions almost immediately, and dies within two or three minutes.

When we remember that only about 0·50 grm. of pure paraphenylene diamene, about 0·009 grm. per kilo of body-weight, is necessary to produce the complete coloration of the darkest hair, we see how great a margin of safety exists theoretically.

In contrast with these results, it is found that injections of Bandrowski's base in sterilised water are completely innocuous in the rabbit, but the solution of paraphenylene diamene oxidised for periods too short to produce this substance are much more toxic. Thus it is found that a weak solution of paraphenylene diamene, which on oxidation for twenty minutes becomes completely innocuous on injection into the rabbit, owing to complete transformation into Bandrowski's base, are, when similarly oxidised for only ten minutes, very irritant when injected into a rabbit. The injections are made at regular intervals of fifteen to twenty minutes, and after three injections

marked signs of mucous membrane irritation are perceptible. After the fourth and fifth injection, similarly at intervals of fifteen minutes, nasopharyngeal œdema is well marked, and the animal may die after the fifth injection from dyspnœa. Such oxidation of the paraphenylene diamene solution for ten minutes causes no formation of Bandrowski's base, but the maximum of some chemical irritant, such as chinondiimin. Solutions oxidised for only five minutes do not contain so much of this substance, and solutions oxidised for fifteen minutes contain a considerable quantity of Bandrowski's base, and therefore also less of this toxic substance. These solutions are both less poisonous to the rabbit than the solution oxidised for ten minutes.

The poisonous effects of paraphenylene diamene as a dye being so well known—its sale in Germany has been prohibited for nearly ten years—efforts have naturally been made to modify it in such a way as to render it less toxic without impairing its powers of coloration. The solution which has the greatest sale and is most frequently used by hairdresser's in England is called "Inecto," but another dye called "Primal" contains sodium sulphite, and toluylendiamin replaces paraphenylene diamene, so that a minimum formation of chinondiimin, or none, takes place. Toxic by-products are quickly decomposed and Bandrowski's base is rapidly formed and the hair quickly coloured. Another dye called "Koorpa" contains phenylene diamene, both the ortho, meta, and para, but in the form of sulphates, and therefore the toxicity of this dye is not great.

But to predisposed individuals every dye containing paraphenylene diamene is potentially toxic, and should only be used with the greatest circumspection. Not only should the dye not be left on for more than thirty minutes in any case before being removed by a thorough shampoo and any tinted skin cleaned with vaseline, but the greatest care should be taken not to apply the dye to any hair which has been bleached less than three days before with peroxide, since this substance acts as a mordant on the hair and increases permeability. Finally in any individual who has any tendency to eczema it is wise to paint a little of the skin of the temple, or behind the ear with some of the dye and cover it with collodion for twelve hours. If no sign of irritation appears on the painted patch during this period it is practically safe to dye the hair with the same solution.

But little need be said about the treatment of dermatitis due to

hair-dyes. Any remains of the dye must be removed by copious ablutions with warm water, any crusts removed with starch poultices, and then soothing ointments of calamine and zinc applied.

A CASE OF GIANT NÆVUS.*

By J. D. ROLLESTON, M.D.,
Assistant Medical Officer, Grove Hospital, London.

The patient is a girl, aged 7 years, with a pigmented hairy and warty nævus and numerous accessory nævi. The principal nævus starts in front slightly internal to the outer border of each sterno-mastoid and passes backwards, occupying each posterior triangle of the neck and extending one inch below each clavicle (*v.* Fig. 1). Behind it extends as a continuous sheet upwards to the external occipital protuberance, outwards to the acromion process, and downwards to the spine of the twelfth dorsal vertebra, where it ends in a tapering point (*v.* Fig. 2).

The pigmentation of the nævus is dark brown, interspersed with vitiliginous patches, and is interrupted at the periphery by linear areas of unpigmented skin running obliquely downwards and outwards.

The skin of the pigmented area is sharply marked off, but is not raised above the level of the normal skin and shows no sensory changes. There is no spina bifida.

The nævus is covered by downy hairs, mostly of a light colour, except in the interscapular region, where they are darker. Several warty growths of the same colour as the pigmented skin are present in the cervical and upper dorsal areas of the nævus, the largest being situated just below and to the left of the external occipital protuberance. In addition to the principal nævus, other nævi are scattered over the rest of the skin. The largest are situated on the right thigh and right buttock. Most of the lesions on the limbs are hairy, but a few are smooth. A few smooth nævi are present on the soles, but the palms are free.

The fewest and smallest lesions are on the face.

* The case was shown to the Section for the Study of Disease in Children of the Royal Society of Medicine on November 27th, 1914.

FIG. 1.—Case of giant nævus (front view).

FIG. 2.—Case of giant nævus (dorsal aspect).

TO ILLUSTRATE DR. J. D. ROLLESTON'S CASE OF GIANT NÆVUS.

There is no hereditary nor familial history of similar lesions, but there is a definite history of maternal impressions. During the third or fourth month of pregnancy the mother had been frightened by a black and tan dog which had tried to bite her husband and had thrown her arms over her head. She had anticipated that her child would be marked, though her doctor assured her that nothing of the kind would take place.

A giant nævus is one of the curiosities of medicine. The site of such growths is usually the "bathing-drawers" area, *i. e.*, the lower part of the back, abdomen, buttocks, and upper third of the thighs. A giant nævus of "tippet" distribution, as in the present case, is quite exceptional, and I can find only four similar cases on record—Bircher (2), Bresovsky (5), Hallopeau and Lasnier (8), Joseph (9).

Bircher's case was a man, aged 41 years, in whom a pigmented and warty nævus extended over the neck and upper half of the back. It was triangular in shape with its apex at the spine of the ninth dorsal vertebra.

As in the present case, the warty tumours were most marked in the nape of the neck and interscapular region. Accessory nævi were present on the front of the chest and on the left buttock.

Bresovsky's case was a girl, aged 7 years. The upper one-third of the back and nape of the neck up to the external occipital protuberance showed a warty hypertrophic skin with dark brown pigmentation, and covered with long, brown hairs, 3 to 4 in. long and arranged like the lanugo of the embryo.

The nævus was congenital and the hypertrichosis appeared in the first and second year of life; accessory nævi of the size of a lentil were scattered over the whole body.

Bresovsky proposed to treat the condition with X-rays.

Hallopeau and Lasnier's case was in a young man, in whom a heart-shaped giant hairy and warty nævus extended over the greater part of the back, the base occupying the interscapular region and the apex corresponding to the sacrum.

They regarded the condition as unsuitable for X-rays for the following reasons:

(1) The nævus was completely concealed by the clothing.

(2) If the hairs were removed by the X-rays, a pigmented surface would remain which would make the back more unsightly than before.

(3) To remove the pigmentation the dermis would have to be destroyed and the resulting scar tissue would favour the development of epithelioma.

Joseph's case was a male infant, aged 1½ years, in whom the neck, back, thorax, and greater part of the left arm and a small part of the right arm were covered by a nævus piliferus pigmentosus. Numerous small nævi were scattered over different parts of the body.

There was no similar case in the family, but the mother had been frightened during pregnancy by seeing a mask representing a monkey at a fancy dress ball.

In Sir John Bland-Sutton's book on "Tumours" (3) there is a figure of a man with a hairy and warty nævus of a somewhat similar distribution to that of my little girl, but there is no history of the case.

In addition to the "tippet" nævus, my case shows a number of smaller nævi scattered over the face, trunk, and limbs, and the comparatively large nævi situated on the right thigh and buttock suggest an abortive attempt at "bathing-drawers" distribution.

As is the rule in cases of giant nævi, there is no hereditary or familial history of similar lesions, but there is a definite history of maternal impressions, as in several of the recorded cases.

In Bonn's (4) case of giant hairy and pigmented nævus of "bathing-drawers" distribution, the mother was frightened during the sixth month of pregnancy by a bear's skin being thrown over her head.

Bonn has quoted several other examples. Thus in Max Joseph's case the mother had been frightened by a bear in a menagerie, in Röhring's case by a rat, in Beigel's case by a barrel-organ monkey springing on her shoulder when she was three months pregnant, in Werner's case by a board falling on her dog during the fifth or sixth month of pregnancy, in Sommer's case by the claw of a dancing bear, and in Kaarsberg's three cases by a dead hare, a box on the ear, and a bunch of service berries respectively; the nævus in each case being supposed to resemble the thing producing the impression.

In a recent case of an extensive pigmented hairy mole reported to the Dermatological Section of the Royal Society of Medicine by Dr. Dore (6), the mother stated that when three months pregnant she had seen a child run over by a cart, and at the same meeting Dr. Whitfield (10) related the story of a woman who had been startled by her husband throwing a kitten on to her back in the dark and felt

the furry thing brush against her neck. For months she kept saying that she would give birth to a kitten, and when her child was born it was found to be almost entirely covered with fur. In Bircher's case there was a vague history of the mother having received a fright, but the nature of the impression was not definitely stated.

In the discussion on the present case at the Section for the Study of Diseases in Children, the President, Mr. T. H. Kellock, expressed his belief in the reality of maternal impressions and quoted a case of a child shown some years ago by Mr. B. Pitts with a nævus of much the same distribution, *i. e.* situated down the middle of the back. The story was that the mother during the early part of her pregnancy had suddenly felt a monkey jump from a shelf on to the middle of her back.

Bircher has proposed the following explanation of giant nævi resulting from maternal impressions. The first condition required is the presence of a twin ovum.

The violent mental shock occurring at a very early stage of pregnancy causes a reflex contraction of the uterine muscles and thereby breaks up one of the embryos which is transplanted piecemeal on to the other, grows up with it, is nourished by it, and is subjected more or less to its laws of growth.

"Thus a person with a pigmented and hairy giant nævus has on his surface a portion of his submerged twin brother."

On the other hand, a history of maternal impressions is by no means invariable in cases of giant nævus. Dr. E. C. Williams, of Bristol, has kindly sent me a photograph of a pyriform hairy and warty nævus in a boy extending from the upper dorsal to the mid-lumbar region. At the birth of the child the mother, who had apparently received no startling impression during her pregnancy, was very much surprised to find her child so disfigured.

No history or evidence of syphilis could be obtained in the present case, but in view of Gaucher's theory (7) that nævi, like dental and other dystrophies, are due to hereditary syphilis, a Wassermann reaction was performed (Dr. Cartwright Wood) and proved negative.

The question of cosmetic treatment is of importance. Alibert, in his classical work (1), relates the story of a young lady in whom a hairy nævus was so extensive that it resembled a black waistcoat and drawers. "The husband, who adored his wife when he had only seen

her hands and face, was penetrated with horror when he learnt of this deformity. Separation was pronounced, and plunged two families into the deepest affliction."

The mother of my case is naturally anxious that something should be done before the child reaches the age of marriage. It is to be feared, however, that the lesions are too extensive, and that an attempt to eradicate them might favour the onset of a malignant change.

References.

(1) Alibert.—*Monographie des Dermatoses*, 2me éd., 1835, p. 801.
(2) Bircher.—*Arch. f. Derm. u. Syph.*, 1897, xli, p. 195.
(3) Bland-Sutton.—*Tumours, Innocent and Malignant*, 5th ed., p. 125.
(4) Bonn.—*Prag. Med. Woch.*, 1907, xxxii, p. 391.
(5) Bresovsky.—*Pest. Med-Chin. Presse*, 1908, xliv, p. 977.
(6) Dore.—*Proc. Roy. Soc. Med.*, 1911–12, v (Derm. Sect.), p. 118.
(7) Gougerot and Blum—*Ann. des mal. vénér.*, 1914. x, p. 518.
(8) Hallopeau and Lasnier.—*Bull. Soc. franç. de Derm. et de Syph.*, 1907, xviii. p. 106.
(9) Joseph.—*Berl. klin. Wochenschr.*, 1892. xxix, p. 163.
(10) Whitfield.—*Proc. Roy. Soc. Med.*, 1911–12, v (Derm. Sect.). p. 119.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

A Correction.

We have received a letter from the Secretary of the Royal Society of Medicine with reference to a statement in the report of the case of *Oriental sore* shown by Dr. P. S. Abraham which appeared in the July issue, p. 284. We are asked to state that the material which was lost was not entrusted to any responsible official, and that no officer of the Society knew anything of the incident referred to until after it took place.

OBITUARY.

Paul Ehrlich.

By the early death of Ehrlich at the age of 61 medical science has sustained a very great loss, and his many friends in Great Britain will

feel the deepest regret at his death. He was a man of very attractive personality, and during his visit to the last International Medical Congress in London he made many new friendships, and large numbers of his scientific colleagues were enabled to show their appreciation of his great achievements. He would be world-famous if it were only for his "side-chain" theory and his discovery of salvarsan and neo-salvarsan, but he had worked for years on the chemical aspects of medicine and the action of chemical substances on living organisms, and much of his work has been proved to be of the greatest value.

The action of aniline dyes and especially of methylene blue on living cells and on nerve tissue was some of his earliest work in bio-chemistry, and he did some excellent work on hæmatology and cytology, the staining of blood cells and the study of blood diseases by the injection of methylene blue and by other methods. His studies on immunity are well known and the chemical basis on which he was content to rest his theories. The chemical action of antibodies was a considerable factor in Ehrlich's teaching, and his "side-chain" theory, although often attacked, served satisfactorily to represent in a rough way his views on immunity and the problems of infection. His methods of exact investigation were further exemplified by his work on diphtheria antitoxin standardisation, and again by his discovery of salvarsan. To dermatologists and syphilologists it is unnecessary to more than mention the discovery of this great agent in the treatment of syphilis and its effect upon the *Spirochæte pallida*. Although it has not entirely fulfilled his first expectations, it has at least had a great effect on the treatment of syphilitic symptoms and will no doubt lead to the discovery of some even more potent anti-syphilitic chemical substance.

To Ehrlich was awarded the Nobel prize as some recognition of his achievements. When he died he was Director of the Royal Institute for Experimental Therapy at Frankfurt. He was born at Strehlen and educated at Breslau, and graduated in medicine at Strasburg. He was born of Jewish parents and leaves two daughters, to whom the sympathy of dermatologists in all countries will be accorded.

J. L. B.

CURRENT LITERATURE.

A FATAL CASE OF RESORCIN POISONING—AFTER EXTERNAL APPLICATION. C. Boeck. (*Norsk Magazin for Lægevidensk*, February, 1915.)

The rarity of resorcin poisoning following the external use of this remedy is shown by the author being able to find only three cases previously reported in the literature. One of these was a fatal case, occurring in an infant aged 11 days, with Pemphigus neonatorum, the other two being non-fatal in (1) a man, aged 29 years, with widespread Lupus vulgaris, and (2) a man, aged 19 years, with seborrhœic eczema on the trunk and limbs. Similar cases have, however, been more often known to follow the internal administration of this drug.

The patient here recorded was a boy, aged 16 years, somewhat undeveloped for his age, and of a sensitive and nervous disposition, with an unusually extensive Lupus vulgaris which covered the whole of the left lower limb from the groin and buttocks down to include the toes, as well as the lower part of the left arm and almost the whole of the same forearm, with a patch also on the front of the right thigh. The disease had been gradually spreading since its commencement when the boy was aged 3 years.

After some preliminary treatment with Finsen light to the region of the groin, at the same time as boracic fomentations were applied to the arm and leg, it was considered advisable, owing to the wide extent of the affection and the particularly sensitive nature of this patient, to employ a mixture of resorcin in a gelanthum paste on account of this being less painful than an ointment containing resorcin, pyrogallol, and salicylic acid. On the foot he had already had one day's treatment of a 30 per cent. resorcin gelanthum mixture, which had had to be discontinued since it caused some pain. In spite of the very numerous lupus foci the epithelium was intact on the arm, so that on two occasions there was applied to this part a 27 per cent. resorcin gelanthum mixture, which gave rise to some pain and uneasiness during the first two to three hours. For the left leg, therefore, where the epithelium was likewise now healed, a still weaker (25 per cent.) paste was prescribed, consisting of resorcin and talc, of each 15, gelanthum 30 parts. Fifteen minutes after the application of this dressing the boy had begun to be restless and to complain of pains which appeared to increase in severity. He became quieter and about one hour later was found to be unconscious, cyanotic, and to show spasmodic jerky movements of the right arm. Pulse 120. At the end of another hour there were clonic convulsions in the left half of the body, following a similar condition in the right arm and leg, with spasmodic movements of the face muscles. At the onset of these convulsions the respiration had assumed the Cheyne-Stokes variety. Four hours later the convulsions had ceased, while the coma and laboured breathing persisted; pulse 150. This condition continued until death ensued some nine and three quarter hours after the application of the paste.

The autopsy revealed an unusually pronounced œdema of the brain, which microscopical sections confirmed, without any signs of inflammation of the brain substance or of the meninges. No essential changes were observed in the

kidneys. There was widespread tuberculous disease of the glands with old and recent tuberculosis in the apices of both lungs. The extreme œdema of the brain was sufficient to explain the whole clinical picture. W. J. O.

EPIDERMOLYSIS BULLOSA BEGINNING IN ADULT LIFE; THE ACQUIRED FORM OF THE DISEASE. Fred Wise and M. F. Lautman. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 441.)

The patient who forms the subject of this communication was a male, aged 40 years, with a bullous eruption which had begun fourteen months previously as blisters on the fingers, backs of the hands, elbows, knees, and feet, as the result of traumatism or friction from contact with any hard object in the daily routine of his work. Frequently after eating a meal he noticed bullæ in the mouth. Regions of the body other than those mentioned were not involved, and traumatism did not there produce vesicles or bullæ. The blebs in the specified areas made their appearance in six to twelve hours after traumatism; they were tense, filled with serous fluid, and tended to become hæmorrhagic. They never appeared spontaneously. Previous to the onset of this eruption the skin had been unaffected. Though the patient was not robust there was no defect in his general health which might have accounted for the cutaneous condition. Cultivation experiments with the contents of the bullæ gave negative results.

The affection above described possessed features similar to Epidermolysis bullosa hereditaria, but differed from it in being neither congenital nor hereditary and by making its initial appearance in adult life.

The affection was distinguished from pemphigus by the entire absence of spontaneous blebs, while from Dermatitis herpetiformis it was differentiated by the absence of pruritus and concomitant efflorescences, such as wheals, papules, and pigmentations.

The writers conclude that they are justified in recognising the existence of an acquired form of Epidermolysis bullosa practically identical in its clinical manifestations, course, and evolution, with the hereditary forms of the affection.

J. M. H. M.

REVIEW.

The Biology and Treatment of Venereal Diseases, Etc.*

This is a very profusely illustrated volume of over 600 pages. It deals, as its title indicates, with two entirely different subjects, namely, "the biology and treatment of venereal diseases" and "the biology of inflammation and its relationship to malignant disease." It will thus be seen that the scope of this work is wide, but nevertheless the author has attacked it in all its branches. A glance at the long list of chapters will show that the first thirteen deal with the bacteriology of syphilis, the next thirteen with the symptoms and pathology of syphilis as it affects practically every region of the body; four chapters describe the treatment of syphilis, others deal with soft sore and gonorrhœa in all its

* *The Biology and Treatment of Venereal Diseases, etc.* By J. E. R. McDonagh. London: Harrison & Sons, 1915. 25*s.* net.

aspects—pathological, medical, and surgical—while the concluding chapters are devoted to non-specific venereal diseases and the relation of venereal diseases to personal and public hygiene.

Clearly, therefore, the author has undertaken a work which would ordinarily fall to the lot of a series of experts collaborating in the production of a "system" of venereal diseases. The highly technical subjects of bacteriology, protozoology, morbid anatomy, chemistry, not to mention dermatology, pure medicine, surgery, and even neurology and demography, are all here dealt with by one and the same writer with a result which is inevitable.

The reader who may have special knowledge upon some of these subjects is continually assailed by the suggestion that this, for instance, neurological or bacteriological matter which he reads is very abnormal. He finds few of the old landmarks to which he is accustomed; none of the ordered and critical *exposé* of the views of the leaders of these sciences, brightened, perhaps, by touches of the author's own individuality. On the contrary he is assailed by a torrent of argument and a hail of "authorities," which almost deprive him of judgment. Practically all these arguments lead to some sensational conclusion which is opposed to the work and teaching of nearly all present investigators.

This result in itself is not necessarily objectionable, but it inevitably opens up the question of the probable accuracy of these conclusions, and when it is found that they are based only upon inference, analogy, or observation in fields of science which require peculiarly skilled methods, it is not surprising that the reader asks himself in which of these many sciences is the author peculiarly skilled? He cannot be in all. Is it possible that he can perform 16,000 Wassermann reactions and yet be so skilled as a clinician that he is able to say "that scarcely ever an opportunity arises in which the performance of the (Wassermann) reaction is called for?" (p. 105). Is it probable that the same man can usefully manipulate both the stalagmometer (p. 78) and the urethroscope (p. 390)? If one can trust his estimate of the total nitrogen in serum (p. 84), one is not likely to pay much attention to his statement (p. 416) as a clinician that the popular pastime of motor-cycling occasionally gives rise to a non-gonococcal urethritis. And when, turning over the pages, one finds the allegation (p. 347), "Theoretically, Ehrlich's conceptions were brilliant, but unfortunately, having no first-hand knowledge of syphilis, he was obliged to rest upon the knowledge of others, whose work and conceptions now appear to be wrong. The *Spirochæta pallida* is not the cause of syphilis . . . ."—when one reads this one closes the book with some feeling of irritation.

PAUL FILDES.

THE BRITISH
JOURNAL OF DERMATOLOGY.
OCTOBER, 1915.

A CASE OF ACUTE LUPUS ERYTHEMATOSUS.

By H. W. BARBER, M.A., M.B., M.R.C.P.,
Physician to Skin-Department, Prince of Wales Hospital, Tottenham, and Evelina Hospital for Children; Medical Registrar, Guy's Hospital.

At a meeting of the Dermatological Section of the Royal Society of Medicine, held July 15th of this year, I showed a case of severe Lupus erythematosus (*vide Brit. Journ. Derm.*, vol. xxvii, No. 8). The result of certain investigations, and the subsequent course of the disease, would seem of sufficient interest to justify the publication of the case in full.

The patient, a female, aged 43 years, was admitted to Guy's Hospital, under the care of Sir Cooper Perry, on June 12th, 1915, with an extensive, red, scaly eruption, involving chiefly her face, ears, and neck, but also her scalp, hands, and elbows. She gave the following history: In childhood she had measles, chickenpox, scarlet fever, and a severe attack of whooping-cough. She had also been constipated from early life, being compelled to take aperients frequently to obtain a regular action of the bowels. At the age of twenty-four she developed myxœdema, for which she was treated with thyroid more or less continuously for eight years, and afterwards at intervals.

In 1899, while at St. Anne's-on-Sea, the skin of her face became irritable and sore, as a result, she thought, of exposure to the sun and wind. A local chemist gave her a lotion and an ointment, which cleared the eruption except for two red, scaly patches, which per-

sisted on the cheeks on either side of the nose. To these she applied hot boracic fomentations without success.

The two patches gradually increased in size until, in 1902, she consulted a German doctor, who prescribed Unna's salicylic acid and creosote plaster. As a result of this treatment the patches disappeared, leaving two faint whitish scars. Four years later a new patch appeared on the right cheek, and spread in spite of the application of the plaster. At this time she married, and in 1907, when pregnant, she received X-ray treatment, but without benefit. The patch continued to spread slowly, and in 1913 it was cauterised with (?) trichloracetic acid.

In April, 1914, fresh scaly areas appeared, first on her left ear and neighbouring part of the cheek, and later spreading to the right over the lips, cheeks, and right ear. At the same time she noticed that her hair was beginning to fall rapidly. At Christmas of the same year her hands became involved, and were treated by the X-rays, but after six exposures their condition was considerably worse; moreover fresh patches arose on her chin, forehead, and left elbow.

On admission to Guy's the eruption was very extensive, the entire face being covered by an intense, scaly erythema, which spread downwards on to the neck, and laterally over the ears. In addition to the erythema there was much thickening and œdema of the skin. On either side of the nose could be seen the scars of the older patches; the eyelids were swollen, the conjunctivæ injected. The hair was grey and scanty, the scalp red and very scaly; here and there were areas completely bald, the sites of typical telangiectatic scars. Along the lateral and anterior borders of the fingers of both hands were several discrete red patches, some scaly, and some covered with small telangiectases, and over the left elbow-joint was a large patch—bluish red, and covered with rather firmly adherent scales. The patient complained bitterly of the burning tense feeling in the skin of her face, and her hands were extremely tender.

Examination of the chest and abdomen revealed no abnormal physical signs, except some slight flattening below the left clavicle. The urine gave a slightly positive test for indican, but contained no demonstrable albumin or sugar. The temperature was normal, and remained so until July 13th, when it rose in the evening to 99·4° F.

Two days later she was shown at the Royal Society of Medicine,

where the general opinion expressed was that the case was one of acute Lupus erythematosus of considerable gravity, and that the eruption had probably been aggravated by the X-rays. In conversation with Dr. Winkelried Williams I learnt that he had had a similar case which cleared up under sour-milk treatment, but relapsed when this was discontinued. His patient eventually, however, developed acute phthisis. I had already shared the opinion of many that certain skin-diseases, such as Lupus erythematosus, Dermatitis herpetiformis, etc., were due to bacterial toxins absorbed from the alimentary canal, and, after discussion with Sir Cooper Perry, it was decided to try the effect of the sour-milk treatment on his case.

At the same time a specimen of the patient's fæces was sent for bacteriological examination to Dr. John Eyre, who reported that "*plates prepared from these fæces gave a practically pure growth of streptococcus longus.*"

The sour-milk treatment was begun on the 17th inst., at which time the evening temperature was 100°; lotio calaminæ was used as a local application, and the arsenical mixture, which the patient had taken since admission, was discontinued. On the evening of the 19th the temperature reached 103·6°, and the patient complained of chilliness, and seemed very unwell. Nothing was found to account for the temperature, which gradually fell again to normal during the following three days. On the 24th, however, it rose again rapidly until on the evening of the 25th it had reached 104·2°. The patient was obviously extremely ill; she had repeated attacks of shivering, and was mildly delirious at night; at the same time the eruption became intensely inflamed on the face and hands, and began to spread rapidly as an acute erythema over the neck and back. The sour milk was discontinued and the patient put on a fluid diet. Mild applications were prescribed locally, and white mixture given thrice daily, with an hypnotic containing chloral and bromide at night.

For seventy-two hours the temperature ranged almost continuously above 104°, and then again fell gradually to the normal, where it remained for three days. The general condition of the patient was now much improved, and the rash became much less intense. A further period of moderate fever followed, without much additional disturbance, and lasted until August 8th, from which date the temperature remained normal until the patient's discharge. As

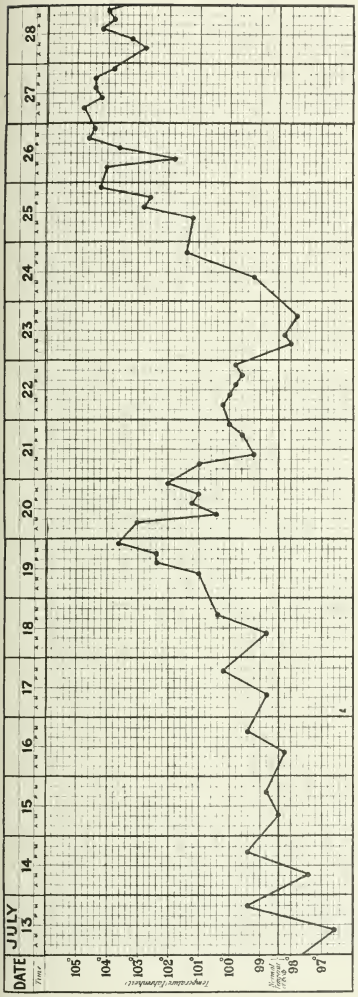
might be expected, during the pyrexial period the urine contained a small quantity of albumin.

The eruption now began to disappear with the most amazing rapidity, and in a few days' time the appearance of the patient had completely changed. The skin of the back became normal, and that of the face lost its red, swollen appearance, and became smooth and supple, and of a brownish tint. Moreover, the patches on the hands and elbow disappeared almost completely.

Another specimen of fæces was now (August 7th) sent for examination, and Dr. Eyre reported "*B. coli and allied bacilli alone developed on culture. No streptococci found.*" Further examinations were made by Dr. Ryffel and Dr. Eyre on August 16th and 20th; in neither case were streptococci found.

The patient continued to improve, and the rapid change in her appearance was commented on by all who witnessed it. With the hope of preventing the further development of harmful streptococci in her intestines, the sour-milk treatment was resumed on August 9th, and 12 gr. of salol were given thrice daily. The salol was later replaced by kerol capsules. On September 30th the patient was discharged, and returned home. She was advised to continue taking the sour milk and the kerol. Her conjunctivæ were inflamed, and for this reason she was put in charge of Dr. C. M. Ryley, of Yarmouth, Ophthalmic Registrar to Guy's Hospital. A letter received from her on October 2nd states that her face continues to improve, and that her eyes are much better.

Comments on the case.—Although I am aware that my conclusions are open to criticism, and that the investigations made were not, unfortunately, as complete as they should have been, in my opinion the patient's eruption was due to the chronic absorption of toxin from an abnormal strain of streptococci in her intestines. These predominated to such an extent that the first examination of the fæces showed them in practically pure culture. During the apyrexial period one must suppose that the absorption of toxin was sufficient to produce the skin lesions, without giving rise to fever—at any rate while the patient was at rest in bed—or to any marked constitutional symptoms. The infection presumably was a purely local one in the alimentary canal. The onset of pyrexia, with the shivering and severe malaise, no doubt indicated either the passage of these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streptococci into the general circulation, *i. e.* a septicæmia, or a far greater absorption of toxin than had hitherto occurred.

As a result of this general infection or increased absorption, there was a general response of the tissues, so that sufficient antibodies were produced to destroy the organisms not only in the system as a whole, but also in the original focus, namely, the intestines. The organisms being thus destroyed the temperature fell, and the rash proceeded to disappear as described. In other words, the patient succeeded in vaccinating herself, and she owes the disappearance of her eruption to the generalisation of the intoxication.

In the fatal cases of Lupus erythematosus, described by Kaposi, Jadassohn, and others, presumably one is dealing with a septicæmia in which the patient's resistance breaks down before the severity of the infection.

It is greatly to be regretted that no cultivation of the blood was made during the febrile period, and that the original cultures of the streptococci were not kept. For these omissions the author is alone to blame. Later attempts to recover the organism from the fæces were unsuccessful.

It is not claimed that the interpretation here put forward has been proven; if the significance of the symptoms and bacteriological findings had been realised earlier, further evidence could no doubt have been brought forward. But it is hoped that the report of this case will induce other observers to make similar and more complete investigations in other cases of this type, and to fill up the gaps necessary to prove the suggestion here made, namely, that some, if not all, cases of Lupus erythematosus are due to the absorption of toxins from an abnormal streptococcal infection of the alimentary canal.

With regard to the value of bacteriological examinations of the fæces, it is obvious that the question is one of great complexity, and that our knowledge of the bacterial flora of the intestines is so incomplete that it is only too easy to draw false conclusions. Moreover, many organisms, some perhaps harmful, undoubtedly die out before the fæces reach the rectum, but I have devised a simple method, which will be published later, whereby the contents of the small intestines and higher parts of the large can be obtained for examination. At the same time nobody can be considered normal whose

fæces give streptococci in pure culture, and it seems reasonable to suppose that, since the disappeance of the eruption after the pyrexial period coincided with the disappearance of the streptococci from the fæces, some causal relationship existed between the two. On the other hand, there is some evidence that certain other diseases, unaccompanied by skin-lesions, *e. g.* pernicious anæmia, are due to a similar streptococcal infection of the alimentary tract, and in all probability further research will show that streptococci of different strains may produce widely different morbid results.

I am greatly indebted to Sir Cooper Perry, who has allowed me to publish the case and gave me every opportunity of investigating it.

A NEW CONCEPTION OF THE TUBERCULIDES: AN ACCOUNT OF THE WORK OF RIST AND ROLLAND.

The pathogenesis of the group of cutaneous and subcutaneous affections for which Darier suggested the name "Tuberculides" presents many points of interest. The eruptions are of various types. The simplest form consists of groups of small inflammatory papules in the dermis—Lichen scrofulosus. The lesions are of little clinical importance and tend to spontaneous cure without necrosis. In a more severe type the eruption consists of bilaterally symmetrical deep papules of slow evolution which undergo central necrosis followed by ulceration which slowly heals, leaving a permanent cicatrix. To this group of papulo-necrotic tuberculides various names have been applied, the names depending for the most part upon the parts of the skin involved or on the superficial resemblance of the lesions to certain common dermatoses, *e. g.*, folliclis, Acne scrofulosorum, etc. Thirdly, we meet with affections of the hypoderm, of which the Erythema induratum of Bazin is the type. The induration commonly undergoes necrosis, and an indolent ulcer forms which usually heals if the patient is kept at rest.

The characteristic features of the whole group are: (1) the patient is a tuberculous subject and reacts to tuberculin; (2) the eruptions are generally bilaterally symmetrical; (3) the histology of the lesions

suggests tuberculosis; (4) the tendency in the majority of cases is to spontaneous cure; (5) the bacillus of Koch is almost invariably absent; (6) inoculation of the guinea-pig is rarely successful.

To explain these phenomena it has been suggested that the lesions are a reaction of the tissues to a tuberculo-toxin derived from some antecedent glandular or other focus. Other observers hold that the eruption is produced by the circulation in the blood of dead tubercle bacilli. The third hypothesis is that the tuberculides are caused by emboli composed of bacilli of low virulence. During recent years the last view has gained more and more acceptance.

E. Rist and J. Rolland, in a paper entitled "Etudes sur la Réinfection Tuberculeuse" (*Annales de Mèdecine*, tome ii, No. 1, July 15th, 1914), put forward a new hypothesis which demands the careful attention of dermatologists. They have studied experimentally the phenomena following the intradermic injection of the human and bovine varieties of the bacillus tuberculosis in guinea-pigs, which had already been infected with similar organisms. They reproduced in a number of the animals the classical phenomenon of Koch, and in others certain variations. The reinoculations were made at intervals of one to four months after the initial subcutaneous or peritoneal tuberculisation of the animals. In sixteen cases the phenomenon of Koch was observed. For instance, one animal was inoculated with the fluid of a pleural effusion on February 15th, 1913. An abdominal "chancre" formed and an inguinal gland became enlarged. On May 26th an inoculation, gr. ·001 of human T.B., was made in the dermis of the abdominal wall. The next day there was a diffuse œdema at the site of the reinoculation; the skin was infiltrated over an area the size of a franc piece. On May 29th the cutaneous infiltration was of greater extent and of cartilaginous hardness. The surface was brown and its margin ecchymotic. On the 31st the brown area began to separate and was detached on June 2nd, leaving an ulcer 1·5 cm. by 1 cm. in area with raised edges. The base of the ulcer was formed by the muscular layer covered by a brownish slough. The corresponding glands were not enlarged. In nine days the ulcer had filled up and rapidly healed, leaving a stellate cicatrix by July 20th

A primary inoculation of Koch's bacilli develops much more slowly. Nothing may be seen for from nine to twelve days or longer, the reaction depending upon the dose of the organism and

on its virulence. If massive doses are injected into the dermis œdema may be noticed in two days. The œdema subsides, and a small nodule can be felt on the fourth day. This nodule enlarges, softens, and ulcerates, and at the end of a variable number of days a "chancre," with corresponding adenopathy, develops. These "chancres" present a rounded or irregular loss of substance with infiltrated raised edges resting on a deep induration, secreting a caseous pus, or are covered with crusts. There is at first unilateral glandular enlargement, then bilateral infection, and they are incurable. They persist with the same characters until the death of the animal in two or three months.

The evolution of the lesion caused by reinfection (Koch's phenomenon) is quite different. Its development is strikingly rapid. For instance, there is a considerable local œdema from the first day, while in control animals, non-tuberculous, there is a very discrete, hardly perceptible, area of œdema of the dermis. The area of œdema produced by reinfection is easily palpable, and in a few days it takes on a peculiar brown tint, which may be preceded by a purplish ecchymosis. This is certainly not the result of traumatism, for it is not observed in animals inoculated for the first time. The area is usually circular, surrounding an islet of normal skin of characteristic appearance. With the formation of the indurated brown plaque the œdema diminishes, and a slough begins to separate at the end of five or six days. The fall of the slough causes a sore, the base of which is formed by the superficial muscular layer of the region. During the following days this sore is frequently covered with a thick crust, under which cicatrisation proceeds rapidly, and the infiltrated margins of the ulceration resume their suppleness. Some days later the crust comes away, and from eight to ten days after the reinoculation the ulcer is much less. Its base is red, its margins supple, the surface dries rapidly and gradually becomes covered with epidermis from the periphery to the centre. About a month after the reinfection there is no more evidence of the reinoculation than a perfectly supple scar.

Excisions of the lesions of reinoculation for microscopical examination were followed by rapid and complete cicatrisation, whereas, in control cases, the removal of the lesion of a primary inoculation was always followed by a caseous "chancre," with great infiltration

of the margins and base of the wound. In the latter cases the diffusion of the bacilli is so rapid that even a very early excision cannot prevent their spread by the lymphatic tracts or by migratory cells.

Five animals of the series of inoculations showed *allergic* symptoms. The reaction was of great intensity and very early, while the healing of the lesion failed completely, a tuberculous chancre formed, sometimes phagedenic, and only distinguished from the primary inoculation by its rapid evolution. In rare cases these allergic phenomena were partial only, a caseous abscess following the fall of the crust observed in the typical cases.

Tabulating their results the authors found that of the 32 guinea-pigs reinfected with tubercle by the skin, 17 showed the phenomena of Koch at the site of intra-cutaneous reinoculation, in 5 cases there was œdema with ecchymosis terminating in a chancriform ulcer, while in 10 the reaction, with reinoculation, took the form of a "chancre."

Second and sometimes third inoculations were made to determine the influence of Koch's phenomenon on allergy. Four guinea-pigs which had shown the phenomenon of Koch were reinoculated, four, seven, and eight days after this first reinoculation. In these animals the phenomenon of Koch was reproduced exactly. There were the same early œdema, the same slough formation, and the same evolution of the lesions.

In another group of cases, animals which had shown the phenomenon of Koch after the first reinoculation, developed caseous ulcers after a fresh inoculation made four, seven, or eight days after the first.

Histological observations.—The lesions produced by subcutaneous inoculation of the guinea-pig with considerable numbers of tubercle bacilli produce true polynuclear abscesses with rapid caseation. In the "chancres" of the primo-inoculation the appearances were simply those of a subacute inflammation without giant cells or epithelioid cells; in fact, without anything which definitely showed their tuberculous origin except the presence of *numerous bacilli.*

The lesions caused by reinoculation also are not characteristic, but differ from the primary inoculation by their extreme diffusion through the whole thickness of the dermis and hypoderm. They are charac-

terised by vascular dilatation, by hæmorrhages, and by a diffuse infiltration of polynuclear leucocytes. The epidermis then desquamates, lifted up by the vesicles full of polynuclears. The superficial part of the dermis, or even the whole of the dermis necroses, the nuclei hardly take the stain, and the fibrous tissue stains diffusely with acid dyes. The crusts are formed by a mass of pycnotic polynuclear cells, chromatin *débris*, and cells of all kinds. Under the crusts of the necrosed dermis a mass of polynuclears occupies the hypoderm and forms a true line of elimination.

But the special point of distinction between the primary lesion and the lesion of reinoculation lies in the presence of bacilli. In the polynuclear abscess, which is the lesion of primary inoculation, the authors always found very numerous tubercle bacilli in the polynuclear cells, in the connective tissue cells, and in diffuse intra-cellular masses. On the other hand, *bacilli are extremely rare* in sections of the lesions produced by reinoculation; sometimes they are entirely absent, and those which are found have special characters. In some sections the micro-organisms are very few in number twenty-four hours after the reinoculation. Everything points to a rapid destruction of the bacilli introduced. Those which remain have almost lost their acid-fast character and appear as a microbic dust, no longer coloured red, but a brown-violet by the Ziehl stain.

In Section IV of their paper Rist and Rolland describe the effect of the reinoculation of a new guinea-pig with the lesions of cutaneous reinfection. Material taken from guinea-pigs showing the phenomena of Koch was of very low virulence when introduced into a fresh guinea-pig. On the other hand, material from an animal showing a chancriform ulcer or a caseous focus caused the development of a rapid tuberculosis. In some instances, however, where an allergic state was present in the animal from which the material was taken, the fresh guinea-pig showed little or no evidence of tuberculosis as the result of inoculation.

A careful study of the report of these researches show that they have a very important bearing on the pathogenesis of the cutaneous and subcutaneous tuberculides. As Rist rightly says: "It is impossible to reflect upon the anatomical and clinical evolution of human tuberculosis without meeting the problems raised by the study of the tuberculides, and one must recognise that no general conception of

tuberculous infection will be legitimate if it does not take into consideration the question of the tuberculides, and fails to give a satisfactory explanation of them. For several reasons the tuberculides occupy a special position among the tuberculous lesions. In the first place they heal, at least in the majority of cases, and heal spontaneously, and next, it is very rare to find Koch's bacilli in them either by bacterioscopic examination or by inoculation. Nevertheless, the organisms are seen occasionally, and the interpretation of the nature of those affections demands the recognition of positive as well as of negative observations. Lastly, tuberculides occur almost exclusively in infancy and adolescence. Some at least of these characteristics appear to me to make the tuberculides approach the reactions which are known under the name of the "Phenomenon of Koch."

"It is known that in reinoculating subcutaneously a tuberculous guinea-pig the lesions appear the next day; there is no period of incubation of eight to twelve days' duration, which is the rule in the primo-inoculation. Moreover, instead of obtaining, as in the primary inoculation, an incurable tuberculous 'chancre' which is the cause of generalised infection, the second inoculation, provided the dose of bacilli injected is weak enough, produces a nodule which heals completely with or without ulceration. There is at one and the same time a hypersensibility which determines the immediate reaction, and an immunity which accelerates a cure; in other words, it is a condition of allergy."*

Rist and Rolland conclude that the cutaneous tuberculides are a manifestation of allergy in subjects in whom there is a manifest or latent focus of tuberculosis—every sufferer from tuberculides gives a positive cuti-reaction. The *tuberculides are*, therefore, *spontaneous examples of Koch's phenomenon*. There is, hence, no need to explain the genesis of the tuberculides by the circulation of toxines or of dead bacilli, nor to suppose that the microbic emboli to which they are evidently due are composed of bacilli in an attenuated state or of low virulence. The researches of the writers show that in an allergic subject a virulent *exogenic* reinoculation causes a lesion which heals, *because the bacilli are destroyed in situ*. This destruction is of variable rapidity and completeness. The tuberculides are caused by an

* E. Rist, *Soc. d'Etudes Scientif. sur la Tuberculose*, March, 1912, 2nd series, vol. ii, p. 49.

endogenous reinoculation, and possess all the essential characters of the phenomenon of Koch. These are in all respects similar to the lesions produced by a virulent exogenic reinoculation.

In support of these conclusions I may be permitted to mention two cases shown me (J. H. S.) by Dr. G. T. Western. In one of these the inoculation of a patient suffering from a tuberculous ankle joint with bacillary emulsion was followed by the appearance of lesions on the leg identical with those of Bazin's Erythema induratum. In the other a patient suffering from tuberculous glands showed the same phenomenon also after the injection of the bacillary emulsion. Thibierge and Gastinel and Bartier and Lian produced lesions identical with Erythema nodosum with intradermic injections of the old tuberculin.

These observations obviously support the thesis of Rist and Rolland. Further, Schweninger and Buzzi showed that an injection of old tuberculin may be followed by an eruption of Lichen scrofulosorum. Lesseliers has confirmed this, and has shown that the histology of the lesions appearing in response to the injection has the same characters as that which occurs spontaneously.

We look forward with interest to MM. Rist and Rolland's promised further communication on this important subject.

J. H. Sequeira.

FACIAL MORPHŒA.

By W. J. O'DONOVAN, M.D., M.R.C.P.,
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In the *British Journal of Dermatology*, 1911, vol. xiii, two cases of frontal sclerodermia were published by Dr. Sequeira. Until the present case—between then and now—no other similar case has presented itself at the same clinic. On account of its rarity and its points of divergence from the previous cases both in ætiology and distribution it is perhaps worth recording.

As in the present case, both Dr. Sequeira's cases were females, one a girl of 7 and the other a woman of 60. The child (Fig. 1) had a

tubercular father and sister and herself a suspicious chest. The woman (Fig. 2) had lupus of the nose. In the present case parturition is the only definite ætiological factor. In the above child the lesions extended on the right side from the hair margin to the root of the nose, in the woman from the hair margin down to the tip of the nose on the left side; in both there was a gutter-like depression in the bone beneath the sclerosed tissue, which led to a comparison of these lesions with the findings in facial hemiatrophy (J. Hutchinson), both being expressions of neurotrophic rather than mechanical or vascular causes.

Notes of the Case.

Matilda L—, aged 25 years, came to the Skin-Department of the London Hospital, August 10th, 1915.

She was born in Bethnal Green, has never been abroad, and has lived in East London all her life. The only previous illness was measles, and the patient was a box maker until her marriage at twenty years of age.

Father alive and well; a dock labourer.

Mother died August 3rd, 1915, chronic bronchitis and heart failure.

None of her relations have any similar trouble, and her three children, aged 4 and 2 years, and 7 months, are all well. No miscarriages; no stillbirths.

History of onset.—Her last child was born after an easy labour on January 10th, 1915; her recovery was uneventful, and she was up and about in ten days. One month after delivery a lodger called her attention to a mark on her forehead. There was then in the centre of the forehead a white spot the size of a silver three-penny piece. It has steadily grown in an upward and downward direction, but she had never experienced the least discomfort even on exposure to the sun or to winds. Two months ago another spot appeared on her right chin and gradually enlarged to its present size; neither has this caused her any discomfort, and she has not yet noticed the smaller areas now apparent external to the large area on the right chin.

On examination.—The most striking features of the lesion are two dead white splashes on the face, one extending from the hair margin to the root of the nose, and the other appearing as a clearly defined

white circular area the size of a shilling on the right chin below the mobile lip.

These areas are slightly sunken, their surfaces are finely wrinkled, and both have a narrow border of lavender-coloured, smooth, shiny skin, which on the outer side of the forehead lesion includes a few small telangiectases. The border of the white areas is well defined; that of the lavender-coloured zone fades into the surrounding skin. A few atrophic acne spots can be seen in the forehead zone, though the face as a whole is remarkably free from any acne. The skin generally is moist, but no sweating occurs on the dry sclerosed areas. On looking closely much smaller but exactly similar areas can be

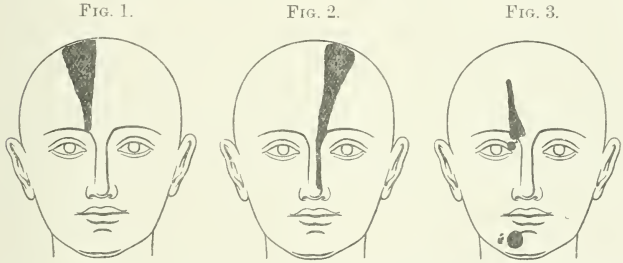

Fig. 1.—Distribution of the lesion in the girl, aged 7 years published by Dr. Sequeira.

Fig. 2.—Distribution in the woman, aged 60 years, published by Dr. Sequeira.

Fig. 3.—Distribution in the present case.

seen (1) below the forehead band under the right eyebrow and on the inner side of the right upper lid, and (2) to the outer side of the large area on the right chin. These have their lavender margins; all are devoid of hair; are stiff on pinching; are free of the bone below, though only slightly movable. The skull bones below the lesions show no palpable depressions.

On none could any anæsthesia be made out, neither to light nor deep touch, to hot or cold, to pain or to dual touch.

Weight 8 st. 4 lb., a well-proportioned, active, slender brunette. The rest of the patient's skin, apart from numerous freckles on the face, is natural. The mucous membrane of the mouth is pink and smooth; the teeth are excellent; there are no palpable enlarged

glands, no abnormality by ordinary clinical examination in any of the thoracic or abdominal viscera. The central nervous system, as shown by reflexes, sensation, speech, and mentality, was normal.

The catamenia are regular, painless, and not excessive; there is no leucorrhœa. Bowels open regularly. Micturition, no frequency; urine, no abnormality.

Comment.

This completes the series needed to support Dr. Sequeira's hypothesis of a ganglionic neurotrophic origin. In the two previously recorded cases the territory of both the first and second divisions of the fifth cranial nerve are involved, and the third case, while apparently missing the second division, affects both the first and third. This lends strength to the hypothesis that the underlying cause is not in the peripheral nerve but in the Gasserian ganglion, where all these branches can be affected by some localising lesion similar to those found in Herpes zoster or acute poliomyelitis.

CURRENT LITERATURE.

HUMAN SERUM IN THE TREATMENT OF PSORIASIS AND OTHER SKIN-DISEASES. Howard Fox. *Journ. Cut. Dis.*, 1915, xxxiii, p. 615.)

Sixty patients suffering from psoriasis in various forms and stages were treated by a combination of chrysarobin ointment and injections of autogenous serum (in a few cases, autogenous blood); in all nearly 300 injections being given. The injections were given intramuscularly. The results were disappointing, as the treatment did not seem to prevent the appearance of relapses which occurred with the characteristic frequency.

The only results which were really favourable were noted in Dermatitis herpetiformis, seven cases of which were so treated by the writer. In one case, in a woman aged over 80 years, great benefit was derived from a series of injections extending over a period of six weeks. She was given at first two injections of autogenous serum of 25 and 30 c.c. respectively, with only slight improvement, but subsequently she had eight injections of heterogenous blood (average of 20 c.c.) obtained from two apparently healthy individuals, as a result of which there was a gradual and steady improvement in both subjective and objective symptoms, the pruritus ceased, the crusts fell off, and no new lesions appeared.

At the end of five and a half months there had been no relapse. During the entire course of treatment no local remedy except vaseline was employed. Favourable results were reported in three of the other cases, while in the remaining three the results were unsatisfactory. In none of the cases were any ill effects noticed, except in a boy with psoriasis, who complained of general malaise for twenty-four hours after the injection and showed a slight rise of temperature. The injections of heterogenous serum and blood were, however, occasionally followed by mild anaphylactic symptoms lasting two or three days, while, after intramuscular injections of blood the patient complained at times of considerable discomfort, lasting in one case for a week. J. M. H. M.

THE TREATMENT OF PSORIASIS WITH AUTOGENOUS SERUM. William B. Trimble and John J. Rothwell. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 621.)

The conclusions arrived at by the writers on this subject are as follows:

(1) Autogenous serum injections alone for the cure of psoriasis seem to us worthless.

(2) Autogenous serum as an adjuvant to weak chrysarobin ointment seem also to us worthless, since a patient not taking the serum will recover quite as quickly with the same ointment.

(3) Chrysarobin ointment in 2 per cent. strength will cause a dermatitis as quickly in patients taking the injections as it will in those not taking them.

(4) In typical, uncomplicated cases of psoriasis the patches are not influenced until the external application is begun.

(5) The method is harmless if done under proper antiseptic precautions.

(6) That many psoriatic patients, who have suffered for years from either persistent or recurring attacks of the disease, become tired and lax in their attention to treatment. The new method serves to stimulate these patients to such an extent that they pay more attention to their personal hygiene, rub in the ointment more vigorously; in fact give themselves up to the treatment; all of which in turn seems to produce a quicker and better result.

J. M. H. M.

BENIGN FORMS OF TUBERCULOSIS OF THE SKIN. George Manghill Olson. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 515.)

Under this heading the writer includes Erythema induratum (Bazin), the sarcoid of Boeck, and the various forms of tuberculides. He refers to the extensive nomenclature connected with this subject, and suggests that the conditions might with advantage be grouped under the following headings: (1) Tuberculosis miliaris cutis, (2) Tuberculosis papularis cutis, and (3) Tuberculosis nodularis cutis. He considers the theory that they are due to toxins at a distance from the skin, produced by the bacillus tuberculosis in the lungs, glands, etc., and carried there in the blood-stream to be incorrect, and considers that they are true forms of tuberculosis of the skin, and due to the direct action of the bacillus on the cutaneous tissues. J. M. H. M.

THE HISTOPATHOLOGY OF MYCOSIS FUNGOIDES. Frank Crozer Knowles. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 463.)

In this communication the writer describes the histological changes which occur in the various stages of Mycosis fungoides, and refers to the literature on the subject. The following are his conclusions:

Mycosis fungoides offers a clear histological picture, even in the earlier stages.

The characteristic features consist in the great multiformity of cells, including plasma cells, numerous mitoses, the location of the cellular infiltration in the upper corium, the papillary and subpapillary portions, and the papillæ, and marked changes in the epidermis.

Mycosis fungoides is distinguished from the syphilitic granuloma by less multiformity of cells, more plasma cells, and the greatest infiltration of the cellular elements surrounding the widely dilated blood-vessels in the latter disease.

Mycosis fungoides is differentiated from the tuberculous granuloma by the lack of multiformity of the cellular infiltration, which is not located around the blood-vessels, the large number of plasma cells, giant cells with central caseation, and the early disappearance of the collagenous bundles in the latter affection.

Mycosis fungoides is eliminated from Sarcoma cutis by the regularity in size and shape of the cells, the presence of a fine fibrillar network between the cells, the fact that the growth begins in the reticular layer and remains limited to it unless ulceration occurs in the latter condition.

Mycosis fungoides is excluded from the various leukæmic and pseudoleukæmic growths of the skin by the finding of a pure lymphocytic infiltration of the corium and subcutaneous tissue, stopping with a very sharp line just beneath the papillary layer in the latter diseases. Most authorities agree as to the absence of mitoses, of plasma cells, and imperfect giant cell formation in Leukæmia cutis.

The deduction is obvious, that as Mycosis fungoides gives a distinct histological picture the disease is a separate entity. J. M. H. M.

DIFFERENTIAL DIAGNOSIS OF VERRUGA PERUVIANA. R. P. Strong, E. E. Tyzzer, and A. W. Sellards. (*Journ. of Trop. Med. and Hyg.*, 1915, xviii, p. 122.)

In this paper the differential diagnosis of Verruga peruviana from various affections with which it has been confused is discussed in some detail.

Certain writers in the past have been inclined to regard it as a variety of framboesia, but from this view the authors of this paper strongly dissent. The chief points in the diagnosis are the following: In yaws the most characteristic feature of the eruption is a papule which becomes moist after about a week and develops a yellowish secretion which dries into a crust; the verruga lesion, on the other hand, is a smooth, tense, translucent nodule, somewhat resembling a cherry; framboesia is contagious, verruga is not; in framboesia the spirochæta pertenuis may be recovered from the lesions, in verruga this organism is never present; framboesia is readily amenable to injections of salvarsan, verruga is entirely uninfluenced by it.

Another disease with which it has been confused is oroya fever. According to the authors, however, Verruga peruviana is due to a virus which may be transmitted to several of the lower animals, particularly monkeys, while oroya fever is due to a micro-organism (the Bartonella bacilliformis) which is a parasite of the red blood corpuscles and endothelial cells, and up to the present has not been transmitted to animals.

Occasionally concomitant infections of oroya fever and verruga are encountered, and it is possible that in Carrion's classical experiment, where the inoculation was made with the blood from a verruga nodule, that death took place from oroya fever. Oroya fever is possibly related to para-typhoid fever, but is not identical.

Under the heading of Angio-fibroma cutis circumscriptum, Bassewitz has described a disease which closely resembles Verruga peruviana, and it is possible that they may be the same disease. J. M. H. M.

LICHEN SCLEROSUS VULVÆ. Douglass W. Montgomery and George D. Culver. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 572.)

The case which forms the basis of this communication was that of a woman, aged 53 years, who suffered from Lichen planus of the atrophic type situated on the neck, back, upper part of the chest, and extensor aspect of the forearm where the lesions had the characteristics of white-spot disease, being white, leathery, wrinkled, and sunken. On the flexor aspect of the right wrist there were recent well-marked Lichen planus papules. In addition to the skin lesions, the genitalia were markedly involved, the labia minora being flat and leathery with a smooth leukoplasia-like surface, the atrophic leathery change extending back across the perineum to involve the anal opening. The appearances recalled the descriptions of Kraurosis vulvæ, and the writers conclude that Kraurosis vulvæ is frequently a manifestation of Lichen planus. J. M. H. M.

SPINO-CELL CANCERS OF THE SKIN. H. H. Hazen. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 611.)

According to the writer there are two varieties of spino- or prickle-celled cancer of the skin, namely, a malignant and a warty type that will metastasise only under special circumstances. These growths always arise from abnormalities such as scars, warts, X-ray dermatitis, Lupus vulgaris, ulcerations, arsenical keratosis, etc.; hence many of them could be prevented or at least operated upon at an early date. Owing to the early tendency of these spino-celled cancers to form metastatic growths in the regional glands it is necessary that the glands should be radically removed in addition to the growth itself.

J. M. H. M.

NOTES ON THREE CASES OF PARANGI, TREATED WITH DR. CASTELLANI'S MIXTURE. E. C. Spaar. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 170.)

The following mixture is recommended by Castellani for the treatment of parangi (yaws) in Ceylon. It contains tartar emetic 1 gr., sod. salicyl. 10 gr.,

pot. iod. 1 dr., sod. bicarb. 15 gr., to 1 oz. of water. Three doses are given daily diluted in four times the amount of water to adults and youngsters over 14 years of age, half-doses to children of 8 to 14 years of age, and one-third or less to younger children. The active drugs in the mixture are the potassium iodide and, in a less degree, the tartar emetic, while the sodium salicylate seems to hasten the disappearance of the crusts. The presence of the large amount of bicarbonate of soda, though making the mixture very inelegant, seems to prevent the symptoms of iodism and decreases the emetic properties of the mixture, in this way rendering possible the administration of massive doses of potassium iodide and large doses of tartar emetic. With this treatment the writers obtained satisfactory results in three cases, with rapid improvement occurring only a few days after starting the medicine. J. M. H. M.

NILE BOILS IN THE ANGLO-EGYPTIAN SUDAN. Albert J. Chalmers and Alexander Marshall. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 205.)

Nile boils are a variety of tropical furunculosis. The organism responsible for them has been studied by Chalmers and Marshall, who have found it to be a non-mobile circular coccus which grows on agar in the form of small white colonies which, after forty-eight hours, attain the size of about 2 mm. in diameter and acquire an orange-buff colour. In sub-culture on agar slants it appears as a continuous orange-buff coloured growth. In agar stabs it forms a nail-like growth, spreading out on the surface into an orange coloured head, while the shaft of the nail in the medium is white. The organism does not liquefy gelatine.

A vaccine was prepared from the organism which, when injected, quickly cured the cases even when the usual commercial mixed staphylococcic vaccine had failed. The strength of the vaccine employed was five hundred millions, of which two injections were sufficient. J. M. H. M.

REGIONAL VARIATION OF VON PIRQUET'S REACTION. Colliver. (*Arch. f. Pediat.*, February, 1915.)

Observations were made on fifty cases to determine the susceptibility of various parts of the skin to the cuti-reaction. The traumatic reaction was as far as possible separated from the reaction to the tuberculin. In 25 per cent. of the cases it was absent, and it was most evident where the parts were soft and vascular.

The true cuti-reaction appeared in 98 per cent. of the cases before forty-eight hours, and in 90 per cent. before twenty-nine hours. The reaction was slowest to appear on the knee and then on the foot. As a result of these experiments there does not appear to be any reason for not continuing to use the forearm for the test.

The author notes that the reaction is often absent in emaciated children suffering from tuberculosis, and in miliary tuberculosis. Measles apparently

prevents the action from appearing until the eruption has disappeared. The reaction is most severe in diabetics suffering from tuberculosis. J. H. S.

THE WASSERMANN REACTION IN MALARIA, KALA-AZAR, AND LEPROSY. W. D. Sutherland and G. C. Mitra. (*Ind. Journ. of Med. Res.*, April. 1915.)

In fifty cases of malaria, in which the malarial parasite was demonstrated at the time the blood was taken for the Wassermann reaction, the writers obtained nine positive results. In three of these cases there was presumptive evidence of antecedent syphilis. The proportion of cases of active malaria giving a positive Wassermann reaction is, therefore, 12 per cent.

A positive Wassermann is not obtained in chronic cases of malaria, but the writers have found it in the blood of patients in whom the malarial parasites had been absent for a week.

In thirty-eight cases of kala-azar a slightly positive reaction was obtained in eight cases, a strongly positive reaction in two only, and a negative reaction in twenty-eight.

Thirty-four cases of leprosy were also examined. Of these fourteen were of the maculo-anæsthetic type and a positive Wassermann reaction was observed in four, while the remaining ten were negative. In twenty other cases of leprosy seven positive reactions were obtained. In leprosy, therefore, the writers found that the Wassermann test was positive in just over 30 per cent. of their cases.

J. H. S.

REVIEWS.

A Practical Treatise of Diseases of the Skin; For the Use of Students and Practitioners.*

A careful perusal of this volume will convince the reader that a valuable addition has been made to the series of text-books dealing with cutaneous medicine, and that it is a worthy successor of the volumes presented to the medical profession by Dr. Ormsby's distinguished predecessors, Dr. James Nevins Hyde and Dr. Frank Hugh Montgomery.

Dr. Ormsby arranges his treatise in the following sections:

First, a very complete and interesting introduction dealing with the anatomy and physiology of the skin; the general symptomatology, pathology, and therapeutics of cutaneous maladies; and finally, a short note on the classification of the diseases of the skin. The difficulty of classification is fully recognised by

* *A Practical Treatise of Diseases of the Skin; For the Use of Students and Practitioners.* By Oliver S. Ormsby, M.D. (Pages 9¼ in. × 6 in., xiii × 1168. Engravings, 303; plates in colour and monotone, 39. Philadelphia and New York: Lea & Febiger. 1915.)

the author, who remarks: "As the arrangement stands to-day it should be regarded as a mode of grouping diseases for the convenience of the student, rather than as an attempt at a scientific classification of diseases of the skin."

The section on general therapeutics is not only instructive, but written in an interesting manner, and will be valued by general medical readers, not only by those specially interested in dermatology.

Following this introduction the treatise proceeds to describe the diseases of the skin arranged in nine classes.

The first class is devoted to the hyperæmias and inflammations of the skin. The discussion of many of these diseases in this category is full and informing, and gives very clear evidence of the wide outlook of the author over the general relationship of disease.

A good index of Dr. Ormsby's method may be observed in reading the article on eczema. His method of handling this vague group of diseases and infections is instructive, and will not only give instruction to the reader who refers to this volume for information, but will satisfy the expert who may refer to it in a critical frame of mind.

The section on erythemata, on psoriasis and the rarer forms of skin-disease is informing and carefully written.

The reader will refer to the section on Pellagra with special interest, as Dr. Ormsby served on the Pellagra Commission of the State of Illinois, and has had special opportunities of observing this disease during its recent outbreak and prevalence in the United States. The section on the exanthemata is very complete.

Then follows a short description of the hæmorrhagic affections of the skin, grouped as Class II, a difficult subject, of which we should have been glad to have fuller account.

The third class in Dr. Ormsby's volume includes the hypertrophies of the skin, including the various forms of keratodermia and sclerodermia; the atrophies of the skin are described as Class IV.

The interesting group of pigment anomalies appear as Class V. Then follows, as Class VI, a large and very important section on the new growths of the skin, including not only the various forms of benign and malignant growths, but many rarer conditions as calcification of the skin. In this section also appear important articles worthy of careful perusal on tuberculosis of the skin and syphilis. The part of the book devoted to this section is naturally a large one, and is well done.

Then follows Class VII, dealing with the neuroses of the skin, including such conditions as erythromelalgia.

Class VIII is devoted to the parasitic affections, both of vegetable and animal origin. A good description of the trichophytic group of diseases is given, and the subject of blastomycosis, as the reader will expect, receives full treatment.

The final section of the book is devoted to the diseases of the appendages, sebaceous follicles, the hair and hair follicles, and diseases of the nails; with a short final section on diseases of the mucous membranes in proximity to the skin.

The whole range of what is usually known as dermatology is thus covered very completely. The clinical and pathological descriptions throughout are carefully

and interestingly written. The sections dealing with treatment are full and should satisfy the most exacting practitioner. The author has had a large experience of modern methods of treatment, such as by means of X-rays, and we note with satisfaction the discriminating way in which these various methods are recommended. After his long experience of X-ray treatment, the author does not fail to warn the practitioner about its dangers. In the introductory section the technique and methods are sufficiently described, while in the section on the treatment of ringworm the note is made: "The treatment, however, should not be used except by an experienced operator, and cannot be recommended for general use."

The volume is well illustrated throughout, and we are glad to observe that Dr. Ormsby has been able to draw upon the collections of many well-known colleagues in order to illustrate his work. Many of us have been able to judge of the excellent photographic illustrations obtained by such observers as Dr. John Fordyce, Drs. George and Howard Fox, Dr. Howard Morrow, Dr. Mackee. Photographs from the collections of these gentlemen, and from many others, may be found in this volume. The treatise does not omit to give the reader a good index.

We congratulate the author on the completion of a handsome and highly satisfactory piece of work. His treatise will rank amongst the best of modern treatises on dermatology, and can be thoroughly recommended both to the general physician and to the expert student of diseases of the skin. J. G.

Synoptical Index of the Medical Annual, Vol. III.*

The new volume of this useful index to medical literature covers the years 1905 to 1914 inclusive. The synoptical index is very conveniently arranged for reference, and an examination of the sections dealing with dermatology shows them to be replete with useful and reliable information. A valuable feature in this volume is the detailed description of new drugs and pharmaceutical preparations, with indications for their employment. The changes made in the British Pharmacopœia, 1914, are tabulated in an appendix, and the metric method of prescribing is described.

The Index cannot fail to be of service especially to the busy practitioner.

J. H. S.

* *Synoptical Index of the Medical Annual, Vol. III.* Bristol: John Wright & Co. 8*s.* 6*d.* net.

QUARTERLY SURVEY OF DERMATOLOGICAL LITERATURE.

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THE BRITISH
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THE RELATIONS OF THE *STAPHYLOCOCCUS ALBUS* AND THE ACNE BACILLUS TO THE EPIDERMIS, AND THE EXCRETIONS OF THE SKIN—WITH SPECIAL REFERENCE TO THE LESIONS OF ACNE VULGARIS.

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CONTENTS.

* Part II will be published in the December number.

Introduction.

In this investigation it was sought to make clear *in vitro* what effect these organisms growing separately and together had on certain of the various media in which they grow on the skin. The results of these observations have then been correlated as far as possible with the conditions, physiological and pathological, which are found *in vivo*.

In addition, the inter-relation of these different forms of bacteria, which are so constantly found together on the skin, has been to some extent examined.

In this way it is hoped to fill in some of the many gaps in our knowledge of the precise ætiology of certain skin infections, and, further, to provide indications for rational forms of treatment.

Naturally the first thing one would wish to do is to give an exact definition of the organisms to be later referred to as *Staphylococcus albus* and acne bacillus respectively, and since this cannot at present be done it follows that these investigations lose some part of their value.

PART I.

Characters of the Bacteria under Discussion.

Much uncertainty has prevailed as to the various forms of *Staphylococcus albus* present on the skin, and numerous types have been described as distinct. Cederkreutz (3) has sought to show that all of these forms are modifications of the one organism, and there is much evidence tending to show that this is the case.

The habits of the *S. albus* in its various forms seem to be anything from those of a harmless saprophyte to those of a definitely pyogenic organism. Culturally it appears to vary from a growth which is greyish and translucent to one of a brilliant enamel white colour.

The *S. epidermidis albus* (Welch) (14) and the *S. pyogenes albus* are the two principal recognised types. Lehman and Neumann, however, state that a differential diagnosis between them is not possible.

Again with the coccus which produces a greyish growth on agar, and which is sometimes called the *S. albus butyricus*, such an organism can be at times isolated from the comedo, and is often found on further subculturing to take on the ordinary cultural appearances of the *S. albus*. Moreover, as will be shown later in this paper, a typical

S. albus grown under circumstances such as one might assume to be present in the comedo may take on this characteristic of a colourless growth (that is to say an absence of pigment), and it may again revert to its original type on further subculturing.

With regard to the acne bacillus there has been some divergency of opinion among various workers—Sabouraud (10), Gilchrist (7), Fleming (5, 6), Sudmerson and Thompson (11), Molesworth (9)—as to what are the characters of the true acne bacillus. It seems clear, however, that each of these workers has described the same, or a very similar organism, most likely one of several varieties of the same group. All are agreed on certain cultural characteristics, *i. e.* (1) the importance of anaerobic conditions for the primary culture; (2) the relative slowness of growth of the acne bacillus as compared with the more ordinary skin diphtheroid bacilli. Microscopically the great morphological variation, and the relatively feeble retention of Gram's stain are the principal features.

Accordingly, since no effective differentiation of the various strains of these bacteria at present exists, the observations to follow have been made on such organisms as were isolated from the comedones of Acne vulgaris and the pustular lesions which accompany this condition, and no attempt has been made to isolate particular strains of the cocci or bacilli used. In many instances, moreover, the observations were made, as will be seen, on the bacteriology of the comedo as a whole, and although conclusions have been drawn as to the probable parts played by each of the two organisms assumed to be present, it is not to be denied that various strains of both bacteria may have been present, and acting, at the same time.

Experimental Work.

The substances *in vivo* in relation with which these skin bacteria have their being are broadly three. (1) The keratinous substance of the epidermis. (2) The fatty substances thrown out by the sebaceous and sweat glands. (3) The fluids derived from the sebaceous and sweat glands. Examples of these various forms of medium have been examined as follows.

(1) *Action of bacteria on keratin.*—For the purpose of this experiment fine shavings of bovine horn were used. The shavings were

autoclaved to render them sterile, and were then added to the following bacterial cultures growing in neutral broth*: (*a*) *S. albus*, (*b*) a mixed group of *S. albus* and *B. acnes*, (*c*) a pure culture of *B. acnes*, (*d*) a control tube of neutral broth. After four weeks' incubation samples were taken from each of the tubes, stained with hot carbol fuchsin for five minutes, and then treated with 2 per cent. sulphuric acid. It was found that the horn shavings from the *S. albus* culture, and also from the mixed culture, had become partly disintegrated, and had to a large extent lost their property of acid fastness. This change had not occurred in the shavings exposed to the pure acne culture, those in the sterile broth also showed no change. The bacterial cultures were all markedly alkaline to litmus. Since alkalies, including ammonia, attack some forms of keratin, this point was controlled by exposing similar horn shavings to a 10 per cent. solution of ammonia for four weeks. The horn thus treated was not disintegrated in the same way as had occurred in the bacterial cultures, nor had its acid-fast properties suffered. The assumption is therefore made that the keratinous matter had actually been digested and destroyed by the proteolytic enzymes of the bacteria. On three occasions out of four on which this experiment was carried out, the destructive effects above described were observed. A fresh strain of staphylococcus was used on each occasion. (In Unna's (13) experiments demonstrating the structure of certain keratinous formations he showed that the interior of the horn-cell was readily digested out by pepsin in a few hours, but that the actual keratinous covering of the cell resisted this action—in the above experiment it appeared that the whole bulk of relatively big masses of horny material was partially disintegrated.)

(2) *Action of bacteria on keratin in the presence of oil.*—The experiment described was repeated with the difference that on this occasion some sterile olive oil was added to the medium in each instance; only sufficient oil was added to partially cover the surface of the broth when the tube was in a sloping position. The experiment was repeated in this way because bacteria growing in relation to the keratinous layer of the skin are likely also to be growing in a fat-containing medium, and moreover because, as will be shown later, the alkaline products

* Neutral to phenolphthalein.

of protein metabolism do not make themselves evident so readily in staphylococcal culture media which contain fat.

The results of this experiment were that in none of the cultures was any destruction of the horn to be found after some four weeks' incubation. The culture media were either neutral or gave an acid reaction with litmus.

From these experiments we conclude that the *S. albus,* either alone or in company with the *B. acnes,* can, in course of time, exert a very marked destructive action even on considerable masses of keratinous material. We see further that the presence of olive oil markedly inhibits this destructive process. In this connection it is interesting to note that Jobling and Petersen (8), in a paper recently published, state that the presence of the unsaturated fatty acids, notably oleic acid, markedly inhibits the proteolytic action of tryptic ferments. In this case, however, it seems more probable that the fermentation of glycerin derived from the oil produces an acid medium in which the proteolytic ferments are unable to work.

The conclusions to be drawn from these experiments appear to be of significance in reference to the postulation of the keratinous comedo on the one hand, and the immunity from suppuration in the earlier stages of comedo formation, and in those conditions of follicular infection where a free excretion of fat from the hair follicles is still proceeding.

(3) *Action of the bacteria on fat.*—Growth of *S. albus* in relation to fat: The fat used was pure sterile olive oil. The staphylococcus was a definite albus derived from a follicular pustule. It liquefied gelatine in the course of one week.

(*a*) *Culture in broth under a complete layer of oil.*—When the broth was completely covered with oil the growth was always very slight. After a week or two a thin scum formed like a delicate membrane on the under surface of the oil; this scum consisted largely of bacteria, in association probably with some soapy matter. There was also a slight deposit of bacteria at the bottom of the tube. There was no alteration in the reaction to litmus of either the broth or the oil. After six weeks' incubation the condition was unchanged, but the staphylococcus had not died out. A subculture of the deposit made on to an agar slope showed a growth that was greyish and transparent for the most part—some few colonies were clearly *S. albus.*

The grey colonies again subcultured on to agar in part retained their new characteristics, and in part reverted to the original white colour. The oil remained apparently unaltered, both quantitatively and qualitatively.

It may be taken that the limitation of growth is due to the partial anaerobic conditions brought about by the oil, and not to any inherent inhibiting effect of this substance. This point is made clear in the next experiment. From the first experiment then we learn that the *S. albus* can exist for many weeks under conditions in which it is completely closed in by a mass of fatty material, but that under these conditions it is liable to lose certain of its normal cultural characteristics, notably its pigment-forming property.

(*b*) *Culture in broth with a partial covering of oil.*—A typical *S. albus* derived from an acne pustule was used in this experiment. A larger surface of medium was exposed in a flask culture, and was only partially covered with olive oil. The cultural results were totally different from those just described. Growth was rapid and abundant, a massive white deposit of cocci was obtained, and a quantity of flocculent gelatinous looking material made its appearance in the broth. In the course of three or four weeks the greater part of the oil had disappeared; what remained was floating more or less submerged in semi-solid masses surrounded by a whitish crust, which proved, on examination, to consist very largely of masses of cocci. On reculturing this organism under similar conditions as regards oil the same phenomena were observed. Examination of the semi-solid oily remains showed the presence of a considerable amount of soapy matter from which the fatty acid could be set free by warming with dilute sulphuric acid; some unchanged oil was also present.

The examination of the gelatinous substance presented considerable difficulty and needs to be described more fully in a later communication. It did not give any of the reactions of fats or soaps; it dissolved to an opalescent fluid on heating to 75° C. It was coagulated by absolute alcohol and mercuric chloride, and appeared to be a form of protein, possibly a proteo-lipoid. Microscopically it showed as a quite structureless substance, in which the cocci appeared to be sparsely scattered. It stained fairly well with methylene blue, but poorly with muci-carmine. This experiment was repeated some half dozen times with staphylococci from acne pustules and comedones,

and in four cases the masses of gelatinous substance made their appearance in greater or lesser amount. In some cases the oil did not disappear, but was changed into a clear brownish fluid which had the appearance and properties of oleic acid. In those cases where no gelatinous substance appeared there was a greater formation of the white soapy substance on and about the oil. This experiment shows: (1) That the *S. albus* grows very freely in the presence of oil, that it may form soapy matter, may split off oleic acid, and that it may form masses of gelatinous coagulable substance; (2) that staphylococci identical in appearance when grown on solid media may show considerable differences in their behaviour towards oil, and it seems that a classification of these organisms as regards their digestive action on oil, rather than on gelatine, would be more rational.

Growth of acne bacillus in relation to oil and fat.—In a medium of neutral broth under a complete layer of oil or fat the acne bacillus grows freely, although somewhat slowly, as is its nature. It forms a definite granular layer on the bottom and sides of the tube, and usually a mass of rounded nodules adhering to the under surface of the oil. The broth usually becomes slightly acid, most probably as a result of the fermentation of glycerin split off from the fat.

(1) *The effect of the acne bacillus on various fats.*—A single strain of the acne bacillus isolated in pure culture from the comedo was planted in tubes of neutral broth and the surface covered with a layer, half an inch deep, of olive oil, ordinary lard (pig's fat), mutton fat, and human fat respectively (the solid fats were melted down to extract them from the adjacent fibrous and other tissues, and were added to the culture in the fluid state). At incubator temperature the lard was in two layers, a lower fluid and an upper solid, the mutton fat was solid and firm, the human fat was fluid. After one month's incubation there was considerable growth in all the tubes, that in the culture containing the human fat was the most extensive. The various fatty layers had changed considerably in the case of the oil and the mutton fat; the former was definitely brownish in colour and smelt strongly of oleic acid, the latter had become completely fluid and of a deep brown colour. The lard showed a very slight brownish tinge in the fluid layer and a few small deep brown droplets adherent to its under surface.

Degree of acidity in the altered fats.—A measured quantity of each

of the different fats was taken, dissolved in ether, and titrated with deci-normal caustic soda solution, using phenolphthalein as an indicator; an equal amount of oleic acid similarly dissolved was likewise tested for purposes of comparison. It was found that the altered oil required almost as much soda for its neutralisation as did the sample of pure oleic acid; in short, the oil had been almost completely converted into oleic acid by the splitting off of the glycerin. The human fat had an acidity equal to about half of that of the pure oleic acid. The mutton fat showed less than one third of the amount of free acid as compared with the oleic sample; and the lard only one fifth.

This experiment shows that the acne bacillus is able to split up the glycerin compounds or fats and to set free the fatty acids. The extent to which this takes place varies with different fats. Of the fats tested the splitting was most marked in the olive oil and least in the pig's fat.

(2) *The effect of different strains of acne bacillus on the one fat—olive oil.*—By growing a number of strains of the acne bacillus isolated from different cases, in broth under oil, it was found that in almost every case there was a change in the oil in which free fatty acid was liberated in varying amount. The occurrence of a brown coloration was a usual, but not invariable, concurrent phenomenon.

Alterations in the properties of the oil as a result of the bacterial action.—As already stated, by titration of the oil at various intervals it has been shown that there is a steady production of acid, and that ultimately the amount of acidity present is equal to that of a similar amount of oleic acid. There is thus a complete splitting up of the olein, and a separation off of its fatty acid. The glycerin is further fermented by the bacterial growth with the production of acid in the broth medium. The altered oil, however, exhibits only some of the properties of oleic acid, it has a definite oleic smell, the same degree of acidity on titration with soda, and it is freely miscible with alcohol. It solidifies readily in the cold, however, which pure oleic acid is not so prone to do; and when solidified it melts again at a constant temperature of about 24° C. Pure oleic acid melts much more readily, *i. e.* at 14° C. The changed oil also differs from oleic acid in its colour, which, as a rule, is a much more definite brown than oleic acid, and may sometimes reach a deep mahogany red

colour. The alteration in colour is not constantly present, but it is invariably found that the altered oil has a higher melting point than pure oleic acid. In the cases referred to above, where oleic acid was split off from oil by the staphylococcus, here also it was found that in addition to the colour being slightly deeper than that of oleic acid the melting point was higher than that of the pure acid, as noted in connection with the acne cultures. These alterations in the melting point of fat brought about by the bacterial growth must result from the presence of admixed substances and most probably have a distinct bearing on the formation of fatty plugs in the hair follicles, and of fatty scales on the skin. The production of the coloration beyond that intrinsically attached to oleic acid appears to occur chiefly in the presence of the acne bacillus; apparently, however, it is formed more readily when staphylococcus and the acne bacillus together are growing in broth under oil, and especially in the form of culture now to be described, *i. e.*, when the whole comedo is cultured in the broth under oil.

This experiment, which I have published elsewhere (1), was designed to reproduce the conditions obtaining *in vivo* in an infected hair follicle, and this I believe it does fairly accurately where the follicle is obstructed by a fatty plug, that is to say, before epithelial masses have formed.

A careful observation of the experiment has brought out the following points:

(*a*) The staphylococcus makes no growth after the first day or two; in the course of about three weeks it dies out—that is, provided there is growth of acne bacillus—this is in sharp distinction from the case where staphylococcus is grown alone under oil, when it survives for many weeks.

(*b*) The staphylococcus which is subcultured from the oil-covered broth during the second or third weeks of growth exhibits several varieties, that is to say, distinctions in point of colour, from small greyish transparent colonies to large brilliant white ones. A somewhat similar variation in type, as was already shown, can be produced from a single pure strain of staphylococcus (grown from a single colony, that is to say) after several weeks' culture in broth under oil.

(*c*) The acne bacillus begins to grow after three or four days and

completely outgrows the staphylococcus; it effects the splitting-off of the fatty acid from the oil.

Effect of the bacteria on fluid media.—Only certain aspects of this question need be considered here. The fluid medium in use in these experiments was ordinary nutrient bouillon, neutral to phenolphthalein.

Staphylococcus.—The action of the staphylococcus on this medium has been the object of much careful investigation by bacteriologists. One of the most obvious products of decomposition that appears is ammonia, but indol is not formed. The result of this decomposition is that the medium becomes definitely alkaline, but it does not become foul. If fat is present in the culture medium it prevents the production of an alkaline reaction, probably, as already stated, by the fermentation of the glycerin component.

Acne bacillus.—Cultures of this organism in broth lead invariably to the production of a very foul substance with a typical and penetrating smell. The production of this foulness is inhibited by the presence of fatty matter in the broth. It is, moreover, not produced in the presence of glycerin; in both cases an acid medium results. The foul substance has the following properties: It is not readily destroyed by acids or alkalies, or by hydrogen peroxide. It passes readily through a Berkfeldt filter. By shaking the broth with ether the whole of the foul substance, or mixture of substances, is extracted and can be recovered on evaporation of the ether as a foul-smelling, slightly oily, brownish fluid, which is slowly volatile.

Mixed culture.—When both organisms are growing together the production of foulness is most pronounced, and this, although, as was already pointed out, the staphylococcus completely outgrows the acne bacillus, few or none of which may after a time be found in the culture.

Interaction of the Skin Bacteria.

From the fact that the acne bacilli and staphylococci are so frequently found in company it has been suggested that a state of symbiosis exists between them. Most probably, however, it is a common characteristic, *i. e.*, a liking for fat in the medium that determines their presence together on the skin. From various observations I have formed the opinion that *in vitro* at any rate they are mutually antagonistic. The following facts support this:

(1) If a whole comedo is planted in broth or if both acne bacilli and staphylococci are inoculated into broth at the same time under aërobic conditions the staphylococci will completely overgrow the acne, which will rarely make any growth whatever; whereas, if no staphylococci are present the acne bacillus grows freely.

(2) If the comedo or the mixed inoculation, as in a previous experiment, be put into broth and covered with a layer of oil, *i.e.*, into conditions favourable to the growth of acne but inimical to staphylococcus, the acne bacillus will grow freely, but the staphylococcus will die out in about three or four weeks; this, as compared with seven or eight weeks or more of life if the acne bacillus is not growing in the broth. If, moreover, staphylococcus be inoculated into a freely growing culture of acne in oil-covered broth the coccus will often be found to have died out after about three or four days. I have found this with both *Staphylococcus albus* and also *S. aureus*.

(3) The filtrate from broth cultures of the acne bacillus definitely inhibits the growth of staphylococci, both when used as a fluid medium and also when mixed with an equal amount of 3 per cent. agar to form a solid medium.

Summary of Conclusions drawn from the foregoing Experimental Work.

(1) Keratinous tissues when exposed to the action of a growing culture of certain strains of *Staphylococcus albus* in broth may become eroded and partially disintegrated. This disintegration is not due solely to the alkalinity of the medium.

(2) The destructive action on keratin is not evident where olive oil is present in the medium; the medium then becomes acid in reaction instead of alkaline.

(3) The acne bacillus in pure culture does not effect this destruction of keratin, despite the fact that it produces a marked degree of alkalinity in the medium.

(4) The acne bacillus splits up certain fats with the liberation of fatty acids; which fatty acids in some cases melt at a considerably higher temperature than the original fat, or than the pure fatty acid of the same nature.

(5) The acne bacillus, when growing in contact with fat, produces, in most cases, a definite brown coloration in the fat.

(6) The *Staphylococcus albus* may exert an action on fat similar to that resulting from the acne bacillus; in addition it forms soapy matter, and in some instances masses of gelatinous looking material.

(7) The acne bacillus alone, and especially when growing in conjunction with staplylococcus in broth, produces a foul substance, of smell similar to that met with in some cases of bromidrosis. The production of this foulness is inhibited by the presence of fat, and by the presence of glycerin in the medium. The foul products can be completely extracted by shaking up with ether. The ether extract, on evaporation, leaves a foul, slightly brown, oily material, which slowly volatilises.

(*To be continued.*)

A SECOND CASE OF NORWEGIAN SCABIES.

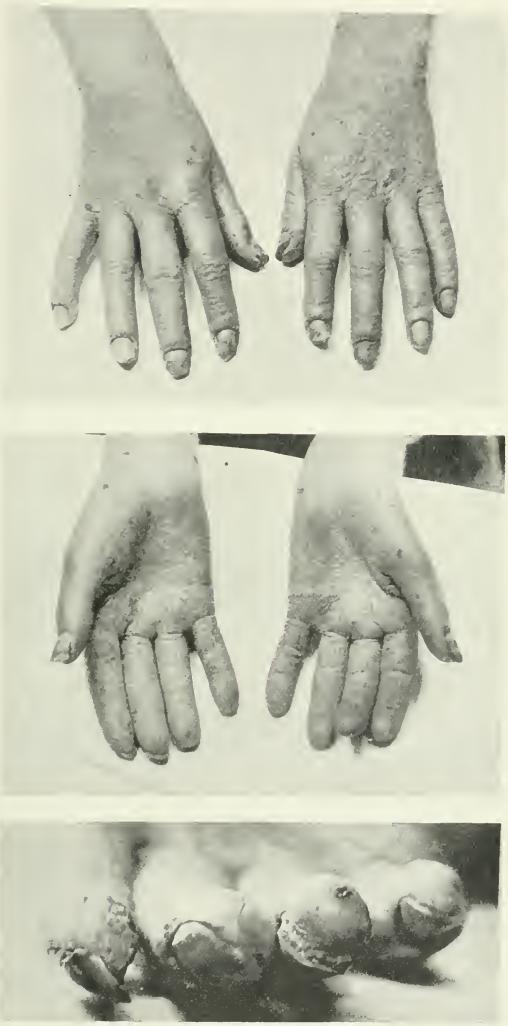
By WALLACE BEATTY, M.D., F.R.C.P.I.,
Physician to the Adelaide Hospital, Dublin.

In the February number of the *British Journal of Dermatology*, 1913, I reported a case of Norwegian or crusted scabies, which had been observed in the Dermatological Clinic of the Adelaide Hospital. This report was accompanied by illustrations from photographs taken by Dr. Jocelyn Smyly.

Strange to say, in September, 1914, a second case of this extremely rare disease presented itself at the Adelaide Hospital. This case, though much less severe than the first case (its duration was much shorter), was typical.

John McC—, aged 14 years, had been suffering for one year. He attributed his affection to his having slept in the same bed with a boy suffering from scabies. Itchiness began on the wrists at first, then spread. The characteristic nocturnal itching tormented him. There were scales here and there over the body, but the hands and region of the nails were specially affected. The illustrations from photographs taken by Mr. J. Manby show very clearly the condition of the hands and nails.

There was a dense accumulation of scales or crusts under the fore part of most of the nails, separating them partially from their bed. Over the nail-wall of some of the fingers was an accumulation of scales forming a semi-circular ridge round the nail. The scales or



Photos. by Mr. J. Manby.

To Illustrate Dr. Wallace Beatty's Case of Norwegian Scabies.

crusts treated with caustic potash solution showed, under the microscope, acari in all stages, and of both sexes; also eggs and empty shells.

The nails of the little fingers were practically unaffected, but some of the other nails, without having lost their translucency, were discoloured towards the free end.

The skin of the hands was reddened. Vesicles were present here and there.

There were impetigo lesions on the ears and scalp.

A CASE OF EXOPHTHALMIC GOITRE FOLLOWED BY ALOPECIA AREATA.

By C. E. JENKINS, M.R.C.S., L.R.C.P.,
Clinical Assistant in the Skin-Department of the London Hospital (Dr. J. H. Sequeira).

The patient, E. H—, a boy, aged 14 years, developed symptoms of exophthalmic goitre about twelve months ago. He was seen by Mr. Walton at the London Hospital, and was admitted to the ward for operation, which was performed on June 10th, 1915. From the surgical point of view the operation was a complete success, and the patient was discharged from the hospital on July 3rd.

About one week later the hair began to fall out, and the patient was transferred by Mr. Walton to Dr. Sequeira. The boy gave the history that four years before he had had a small patch of baldness, about the size of a shilling, and that the hair had been restored after the application of an ointment ordered by the family doctor.

On his admission to the Skin Department there were three large patches of Alopecia areata, each about two inches and a half in diameter. One patch was situated at the edge of the hairy scalp in the middle line below the occiput, the second area was in the right parietal region immediately above the ear, and the third was in the left temporal region at the edge of the hairy scalp. None of the patches appeared to correspond to any nerve area.

The patient's general condition had been much improved by the operation, and he said that he felt much better for it.

The fact that the patient had had a slight attack of Alopecia areata

before he developed the hyperthyroidism might be taken to indicate that he had a predisposition, but there appeared to be a connection between the metabolic disturbance produced by the operation and the acute outbreak of alopecia which followed.

HERPES ZOSTER WITH PARALYSIS OF ARM.*

By F. PARKES WEBER, M.D., F.R.C.P.

The patient, G. G—, a waiter, aged 64 years, had, he said, enjoyed good health till suddenly, on June 16th, 1915, between 2 and 4 p.m., whilst he was having a little afternoon sleep, his left upper extremity became paralysed. About June 23rd an eruption of typical Herpes zoster, the marks of which could be still just made out, was first noticed. It involved the left side of the head and neck, the left clavicular region and shoulder, and the upper front of the left side of the chest. There were no noteworthy pains accompanying the eruption. The paralysis had considerably diminished and the eruption was drying up when the patient was admitted to hospital on August 2nd, 1915. At that time there was very little if any muscular atrophy of the affected extremity. There was some contracture of the paralysed hand, with a tendency to turgid cyanosis—a condition frequently seen in the hand in cases of hemiplegia of cerebral origin. Both knee-jerks were exaggerated. Ankle-clonus could be obtained on the left side, but not on the right side. The plantar reflex was slightly of the extensor type on the left side and of the flexor type on the right side, but later on it was sometimes of the normal flexor type on the left side also. There was no paralysis elsewhere, and no anæsthesia was noted. The blood serum on August 4th, and again on September 14th, 1915, gave a strongly positive Wassermann reaction for syphilis. Antisyphilitic treatment was tried.

Movement in the affected limb was now (October, 1915) somewhat better, and the hand showed less acrocyanosis and contracture, but it was doubtful whether the improvement, such as it was, could be ascribed to the antisyphilitic treatment. The muscles were only very

* The patient was shown at the Dermatological Section of the Royal Society of Medicine. October 21st, 1915.

slightly wasted. No evidence of disease could be found in the thoracic or abdominal viscera. The urine was free from albumin and sugar and was of normal quantity. The brachial systolic blood-pressure was 150 mm. Hg. When the patient was excited or nervous there was considerable tremor in the affected (left) arm. The knee-jerks were still greatly exaggerated, and ankle-clonus could be obtained with the left foot but not with the right. The plantar reflex was normal on the right side, but still variable on the left side. In regard to sensation there was slight hypo-æsthesia on the ulnar side of the left forearm. The patient complained of a little pain in the region of the left shoulder. The pain might be of "post-herpetic" nature. He had not noticed any real pain before or during the actual eruption of Herpes zoster.

Very many examples of Herpes zoster of the forehead and face in association with oculomotor or facial paralysis had been recorded, but relatively few of Herpes zoster of the neck, arm, and thorax connected with paralysis of the arm. In the *Archives de Physiologie* for 1882 (Paris, 2nd ser., vol. ix, pp. 170 to 173), A. Joffroy described two cases in which Herpes zoster of an upper extremity was associated with muscular atrophy of the affected limb. In the *Nouvelle Iconographie de la Salpêtrière* (Paris, 1914–15, xxvii, pp. 251 to 256), Souques, Baudouin, and Lantuéjoul published an account of the case of an old man, whom they had shown before the Paris Société de Neurologie on May 7th, 1914. The patient in question said that on March 10th, 1914, he was feeling a little tired, when the paralysis in the left upper extremity commenced (with a sensation of heaviness and clumsiness). There was no real pain. Two or three days later the Herpes zoster of the affected extremity showed itself. The authors regarded the paralysis as a radicular one.

The positive Wassermann reaction in the present patient was a feature apparently not noted as yet in these rare cases.

Several other references to the literature of the subject were given in Doucet's thesis, entitled "Le zona associé aux paralysies et aux amyotrophies" (*Thèse de Paris*, Année 1906, No. 23). Doucet considered that the paralyses were generally of peripheral origin and incomplete; the paralysed parts were mostly in the neighbourhood of the distribution of the Herpes zoster, only rarely were they at a distance.

Amongst published cases one which nearly resembled the present case was that of a man described by C. Handfield Jones in 1882 (1). The patient, a solicitor, aged 64 years, was seen on August 28th, 1872. He had been attacked by Herpes zoster in the beginning of April, 1872, the left arm being the part affected, the eruption extending up from the hand to the posterior fold of the axilla. The eruption was not at first attended by a notable amount of pain, but after the eruption got better long-lasting neuralgia commenced. The skin was hyperæsthetic in the tract formerly occupied by the eruption. The whole arm was considerably wasted. Sir William Broadbent, in 1866 (2), described the case of a woman, aged 74 years, in whom Herpes zoster in the distribution of branches of the brachial plexus was followed by partial paralysis in corresponding motor nerves. In one of G. Waller's cases (3) right brachial Herpes zoster was followed by paralysis of the right arm. In a man, aged 35 years, to whose case E. Schwimmer (4) referred, a blow on one shoulder was followed by Herpes zoster of that region, and then by sensory disturbance (anæsthesia developed after hyperæsthesia) and incomplete paralysis of the arm. In a man, somewhat over 60 years of age, a patient of Frederick Taylor (5), an attack of Herpes zoster of the right flank was followed by paralysis of the abdominal muscles on the right side. In one of the cases recorded by E. Farquhar Buzzard (6), brachial Herpes zoster was accompanied by paralysis of the deltoid muscle on the affected side. S. Vere Pearson (7) described the case of a painter, aged 52 years, who on getting up one morning noticed sharp burning pain about the left arm and inability to move the upper part of the arm. On the following day an eruption of Herpes zoster appeared on the left arm. The eruption extended from the shoulder to the wrist. There was complete paralysis of the left deltoid and infra-spinatus muscles, with some atrophy, and there was partial paralysis of the latissimus dorsi muscle. The herpes gradually healed, and the affected muscles commenced slowly to regain power. The pain disappeared after some weeks. John Duncan (8) recorded two cases of hemiplegia, with Herpes zoster of the same side of the body, in old persons. In both cases recovery was good. Charcot, in one of his writings, referred to a case of hemiplegia, with Herpes zoster of the lower extremity on the paralysed side.

Other very interesting papers on the subject were those of Wilhelm

Ebstein (9), A. Stanley Barnes (10), Alexander Bruce (11), Weidner (12), Fage (13), J. Ramsay Hunt, and Norman Sharpe (14).

B. J. Vernon (15) and Sir Jonathan Hutchinson (16) were perhaps the first to draw attention to the cases of oculomotor paralyses associated with ophthalmic Herpes zoster. Cases of Herpes zoster (rarely the mouth and buccal mucous membrane were involved in the herpetic eruption), accompanied by paralysis of extrinsic eye-muscles or of the face, and sometimes by gustatory and auditory disturbance, had likewise been recorded by N. B. Darabseth (1894) (17), H. A. Spencer (1894) (18), A. Stanley Barnes (1903) (19), Arthur Hall (1903) (20), P. H. Mules (1903) (21), E. Hewat Fraser (1904) (22), Fage (1909) (23), T. Grainger Stewart (1909) (24), Leplat (1910) (25), H. Claude and H. Schaeffer (1911) (26), Souques (1914) (27), F. Ramond and Poirault (1914) (28), Laignel-Lavastine and Mlle. Romme (1914) (29), J. R. Hunt, and Norman Sharpe (1915) (30).

C. Achard, and J. Castaigne (31) described a case in which permanent paralytic dilatation of the left pupil followed an attack of left-sided ophthalmic Herpes zoster, and in their paper they referred to two other cases in which (permanent or chronic) mydriasis of one pupil followed ophthalmic Herpes zoster of the same side. Dr. Weber wished to point out that, just as it was highly probable that unexplained attacks of paresis or paralysis in isolated muscles or groups of muscles (with or without much sensory disturbance or muscular wasting), for instance, in the deltoid or other muscles of the shoulder-girdle and arm, or in the face, or in the extrinsic muscles of the eye, might be of the nature of zona (that is to say, of the nature of *Herpes zoster sine herpete*, if one might express oneself thus), just so some cases of unexplained mydriasis of one eye might really be the manifestation of an attack of zona without any herpetiform eruption. Possibly even cases of unilateral mydriasis, like those recorded by C. Markus (32) and others, might be accounted for in the same way.

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(24) Stewart, T. Grainger.—*Proc. Roy. Soc. Med.*, Neurol. Section, 1909, ii, p. 111. A woman, aged 37 years, developed Herpes zoster on the right side of the neck and shoulder and back of head. Four days later her face was paralysed on the right side. She noticed that her taste was lost on the right side of the tongue and that sounds were painful in her right ear.

(25) Leplat.—"A Case of Ophthalmic Herpes Zoster with Diplopia," abstract from the Proceedings of a medical society of Liège, in the *Presse Médicale*, Paris, August 3rd, 1910.

(26) Claude, H., and Schaeffer, H.—*Presse Médicale*, 1911, vol. xix, p. 437. The patient was a woman, aged 28 years, who developed Herpes zoster of the left side of the face, head, and neck, with motor disturbance on that side in the distribution of the third, sixth, and seventh cranial nerves, and with tinnitus and impairment of hearing. The case was possibly one of "posterior poliomyelitis" of cranial nerves, and the authors gave their paper the following heading: "Paralytic Zona of the Cranial Nerves and the Theory of Acute Poliomyelitis Posterior." Lumbar puncture showed the presence of a profound meningeal reaction.

(27) Souques.—"A Case of Cervical Herpes Zoster with Facial Paralysis," demonstrated at the Société de Neurologie, Paris, on May 7th, 1914, and abstracted in the *Presse Médicale*, Paris.

(28) Ramond, F., and Poirault.—A Case of Herpes Zoster with Facial Paralysis on the same Side, shown at the Société Médicale des Hôpitaux de Paris, on May 8th, 1914.

(29) Laignel-Lavastine and Mlle. Romme.—"A Case of Herpes Zoster with Facial Paralysis on the same Side, in a Man with Symmetrical Lipomatosis," demonstrated at the Société Médicale des Hôpitaux de Paris, May 15th, 1914.

(30) Sharpe, Norman.—*Loc. cit.* J. Ramsay Hunt.—*Loc. cit.* See No. 14.

(31) Achard, C., and Castaigne, J.—"Zona céphalique," *Gaz. hebd. de Méd.*, Paris, 1897, Nouv. Sér., vol. ii, p. 1177.

(32) Markus, C.—*Trans. Ophth. Soc.*, London, 1906, vol. xxvi, p. 50.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held October 21st, 1915, Dr. J. H. Stowers, President of the Section, in the chair.

Presidential Address.

The President delivered the following address:

Gentlemen,—My first and most pleasing duty is to offer you my sincere appreciation of, and very cordial thanks for, the high honour you have conferred upon me by electing me to this chair.

The office of President of the Dermatological Section of the Royal Society of Medicine carries with it many duties and responsibilities, but with the example of my distinguished predecessors, which I shall endeavour to follow, the valuable assistance of the Executive Council, of which I am already assured, and the loyal co-operation and support of the whole body of members, for which I now earnestly appeal, I shall strive to the utmost of my power to maintain the honour and interests of our Section.

As the time for the special purpose of our meeting is so limited and we have a considerable list of cases on the programme for to-day, it is not my intention to detain you with any lengthy address, but I think it desirable to make a few observations upon the method of procedure which it is necessary to adopt at our meetings in order to secure the fullest advantage from the material at our disposal.

As you are aware, our main purpose is to exhibit and discuss cases of special interest both for mutual instruction and the advancement of knowledge.

To this end it is essential that the following directions, already in force, should be carefully observed, viz.:

That (1) patients shall be instructed to attend at the Society's house, 1, Wimpole Street, at 4.30 p.m., in order that an opportunity may be given for their thorough examination previous to the formal meeting at 5 o'clock, and to enable members to become familiar with the principal facts regarding them.

(2) Exhibitors shall furnish brief notes of their cases on cards provided for the purpose, and shall attend in the side room to demonstrate their cases previous to the meeting. Intending exhibitors will receive cards on application to the Hon. Secretaries.

(3) It is extremely desirable that exhibitors who have had ample opportunity of studying the cases they show shall bring full notes of them to the meeting in a form suitable for publication, and that these notes should be given to the Junior Secretary at the meeting.

(4) Cases which have not presented opportunities for careful study shall be as welcome as hitherto, but, if not notified to the Senior Secretary in time for publication on the agenda, their consideration shall be deferred until after the exhibition of those which have been duly notified.

N.B.—Private cases to take precedence of hospital patients.

At a Council meeting, held on July 15th, the following resolution was unanimously passed, viz.: "That in future the cases for discussion be selected by a Sub-Committee, as follows: The President (Dr. J. H. Stowers), Dr. J. J. Pringle, Dr. H. G. Adamson, with Dr. E. Graham Little and Dr. J. M. H. MacLeod as alternative members in the event of Dr. Pringle or Dr. Adamson being unable to be present."

In order that members may be reminded of this regulation it has been embodied in a footnote on p. 16 of the Society's *Calendar* under "Section of Dermatology," as follows: "Members intending to exhibit cases or specimens are requested to give notice to Dr. Gray, if possible, ten days before the meeting. Clinical cases will be demonstrated in the 'Patients' Room' at 4.30 p.m. before each meeting, and will be brought forward for discussion in the order determined by the Sub-Committee of Selection." I may add that notes of cases demonstrated in the Patient's Room, but not selected for discussion, will be accepted by the Junior Hon. Secretary for publication in the *Proceedings* if provided by the exhibitor in accordance with the Standing Order, subject to the representative on the Editorial Committee. I am fully convinced that this arrangement will prove of service to members, as additional time will be afforded for the discussion of cases of special interest and value, for it must be remembered that owing to the number of patients sent up for exhibition our difficulty has always been to include them in the time allotted to us.

At the instigation of the Editorial Committee, on which each Section of the Society has its representatives, for reasons of economy, some modification and curtailment of the published *Proceedings* may be made in the future. This matter has already been considered by your Council, and our representative, Dr. Sequeira, will convey the recommendations made when the Editorial Committee meets at an early date.

During the past two years (*i.e.* during Dr. Pringle's presidency), we have had three special discussions upon subjects of great interest, ably introduced by Drs. Graham Little, Sequeira, and MacLeod respectively. The debates which followed were of high standard and proved of much practical value.

It will rest with the Council to decide whether a subject is selected for special consideration this session.

Gentlemen, it must ever be present in our minds that were are now living in a time surrounded by the saddest conditions and dangers of protracted war, waged on a scale hitherto unknown.

This appalling conflict, in which the whole of our Empire and our Allies are so seriously involved, has changed the entire face of things, and it is impossible to foresee when the reign of bloodshed and desolation will give place to the blessings of lasting peace. The normal working of every Section of our Society is disturbed and impaired by it, for the number of our Fellows engaged in naval and military duty is very considerable.

Probably the Section of Dermatology is somewhat less involved than others, but it is well represented on the active list by at least seven or eight of our members, including our Senior Honorary Secretary, Major Gray, whose duties at the War Office are constant and onerous. We cordially wish them, and the others, good success in their patriotic work.

Of other and more personal ties and relationships in this connection I will not speak, but I do feel constrained to express, on my own behalf, and on that of every member of the Section, our most sincere and heartfelt sympathy with all those members of our profession, whether Fellows of our Society or not—and alas! they are many—who have sustained the sorrows of bereavement.

Finally, gentlemen, in opening this our ninth session, I will only appeal to you to uphold the traditions of the past; to repress all selfish motives; and to strive with earnestness and zeal for the success of our work, the advancement of science, and the alleviation of human suffering and distress.

His next duty was a very pleasurable one, namely, to express, on behalf of all the members of the Section, their cordial thanks to Dr. Pringle, the retiring President, for the services he had rendered to the Section. He had presided over its meetings with his characteristic geniality and business acumen, and had, in a large measure, secured the success of the sectional meetings. During his term of office Dr. Pringle had given the Section much of his time in connection with the published *Proceedings*, for which members were grateful. He would venture to express his own personal feeling towards Dr. Pringle by applying the words of Sir Thomas Browne written to one

of his most valued contemporaries: "That having long experience of your friendly conversation, full of freedom, constant and generous honesty, I really look upon you as a gem of the old rock, and must profess myself, even to urn and ashes, your very faithful friend." He asked those present to support a cordial vote of thanks to Dr. Pringle for his services to the members and the Department during his occupancy of the chair.

The retiring Members of Council had also rendered the Section good service: Dr. Haldin Davis, who retired by rotation, and Dr. Meachen, who had left London in order to practise in the North of England. Dr. Dore, the Senior Honorary Secretary, who now retires, had rendered yeoman service, fulfilling his duties most regularly and efficiently. Dr. Dore had, in addition, given most willing help to Dr. Gray, his junior in office, whose time was so largely taken up in connection with the War Office. To all those gentlemen he was sure it was the wish of the Section to tender sincere thanks.

Demonstration of Cases.

Dr. J. H. Sequeira showed a case of *erythrodermia* (*Mycosis fungoides?*). W. B—, aged 60 years, was admitted to the London Hospital on October 1st, 1915, suffering from a universal red eruption. The family history was unimportant. There had been no affection of the skin until two years ago, when a red patch appeared on the shoulders and gradually extended over the body. The skin had itched intensely from the onset. The colour had become deeper red during the past twelve months.

The patient was a characteristic "homme rouge," the skin everywhere being a bright red colour. The surface was smooth, and some superficial œdema was present in the lower extremities, where there was slight scaling. The only parts of the skin which were not bright red were the orbital regions, hands and feet. The lymphatic glands on both sides of the neck, in both axillæ and groins were enlarged, movable, painless, and not tender. Neither the liver nor the spleen showed any increase in size, and a radiographic examination failed to show evidence of enlarged glands in the thorax. The urine presented no abnormality.

The blood was examined by Dr. Panton on three occasions, and at

each examination there was an increase in the lymphocytes. A count on October 4th was as follows: Erythrocytes, 4,500,000; leucocytes, 8,000. Percentage of polynuclear neutrophiles, 38; of polynuclear eosinophiles, 1; of small lymphocytes, 42; of large lymphocytes, 13·5; of large hyaline, 2; of coarsely granular basophiles, 0·5; of neutrophile myelocytes, 1; of myeloblasts, 2–100.

The Wassermann reaction was negative.

It was proposed to remove one of the glands for microscopical examination and also to cut sections of the affected skin.

The patient was shown as a case of erythrodermia with lymphocytosis. Dr. Sequeira believed it to be a case of Mycosis fungoides, but in view of the persistent high percentage of lymphocytes the possibility of an erythrodermia of leukæmic or pseudo-leukæmic origin required consideration. A further report would be presented when the microscopical examination had been made.

Dr. F. Parkes Weber asked whether the exhibitor had made a biopsy of the skin, as he thought it probable that the case would afterwards become an instance of Kaposi's Lymphodermia perniciosa. This was not the same as true Mycosis fungoides; it might be described as a kind of leukæmia commencing in the skin, but during life it had been almost certainly sometimes mistaken for true Mycosis fungoides, for the blood need not necessarily show great excess of white cells.

Dr. Adamson said the patient was under his treatment at the out-patient department of St. Bartholomew's Hospital for some time, and the diagnosis he made was Mycosis fungoides; the biopsy made confirmed that view. He was treated by X-rays.

Dr. Graham Little was struck with the essential similiarity between this patient and the lady with an undoubted and very severe form of Mycosis fungoides shown by him at a recent meeting. Here, too, there was a universal redness and an enlargement of glands which preceded the eruption of tumours. This patient, he might mention in passing, was rapidly becoming worse, notwithstanding that, in conformity with the general sense of the discussion on the case, he had sanctioned the further application of X-rays by a specially skilled radiographer, Dr. Harrison Orton.

Dr. Pernet said this case came into the category of the "hommes rouges," as they were known at the Hôpital Saint-Louis, and he agreed with Dr. Sequeira and Dr. Adamson. He did not consider this case would become one of Lymphodermia perniciosa of Kaposi, which condition was much rarer than Mycosis fungoides, and of a different type.

The President asked Dr. Sequeira to exhibit, or report upon, the case at a later date, because of the chance of the further development alluded to.

Dr. Sequeira agreed to do so.

Dr. E. G. Graham Little showed *a boy, aged* 15 *years, of English*

parentage, showing very septic ulcerations of undetermined nature. At the first inspection—and the exhibitor apologised for having been unable to investigate the case, which had come under observation only the previous day—a diagnosis of sporotrichosis was suggested, chiefly because of the history and the course of lesions in the line of the lymphatics; this suggestion was now abandoned. At present, however, it was impossible to come to any decision, and the case was exhibited in this incomplete stage because it was feared a further lapse of time—until the next meeting of the Section for example—might result in too much alteration in the present extraordinary appearance.

The history was as follows: Ten weeks ago the first lesion appeared as a "blister" at the tip of the left thumb, which developed into a suppurative inflammation. The case was seen in the surgical out-patient department at St. Mary's Hospital and a diagnosis of "whitlow" made, and it was treated accordingly. The site healed within eight weeks, leaving a scar; but in the meantime several other and similar lesions appeared on the contiguous fingers of the left hand, and later on the right thumb, and index and forefinger, the toes of both feet and several other positions which would be described later in detail.

Present condition.—When seen by the exhibitor there was no vesicle or any approach to a "blister," and the eruption consisted of two types of lesion: (*a*) a number of purulent granular elevations very like the bromide honeycomb patch (but there was no history of drug taking), and (*b*) a number of roughly circinate somewhat superficial ulcerations, the ulcerations being limited by a raised yellow chamois leather slough with an extraordinary and very foul smell. In size the ulcerations varied from that of a shilling to a five-shilling piece. More recently a typical "blister" type of lesion had been seen, and one such which came on the foot was examined in the early vesicular stage, and cultures and films prepared from its contents proved to be sterile. There were now numerous scabs, rather like the scab of a varicellar lesion, distributed over the back of the trunk. The boy said that all the lesions commenced in the same way with blister formation. There was no itching, and the temperature had throughout been normal.

Distribution.—There was a large and foul ulcer on the anterior

surface of the right wrist, and there were three large flesh elevations of the bromide type in near proximity to this up the line of the inner and lower third of the forearm. Between the elbow and axilla there was a scar of a large healed ulcer in the same line. There were scars of old lesions about the fingers of the left hand, and on the axillary surface of the upper arm there was a large serpiginous ulceration some 2½ in. in diameter. On the dorsum of the left foot there were several bromide-like elevations running in a line from the toe to the front of the ankle. There was a large ulceration covering the whole heel, and a smaller ulcer on the plantar surface. On the right foot there was an ulcer the size of a florin in front of the internal malleolus and a small granular elevation on the anterior surface of the ankle. There was a number of small, partly healed, scabbed lesions on the inner side of the left knee, on the front aspect of the left thigh, and on the middle of the right thigh. The mouth was at present entirely free, but there was an early history of a very foul septic condition here. There was a small patch of Herpes simplex on the front of the lower lip. In other respects the general health seemed to be but little impaired.

Film preparations from the foulest ulcer, that on the wrist, showed a preponderating diphtheroid organism and a very varied bacterial flora, with no specific indications at present.

Since the case was shown the *Bacillus pyocyaneus* had been grown from the lesion to a degree which made it probable that this organism was present in preponderating numbers. The streptococcus and staphylococcus were also found in large quantities.

Dr. Pringle said that the Section must feel greatly indebted to Dr. Graham Little for bringing so interesting a case before them in the rough state, but thought that it could be more profitably discussed at the next meeting, when the exhibitor would have had the opportunity of studying it more fully. His own impression was that the essential lesions in the case were bullæ and not the granulomata which constitute the primary elements of sporotrichosis. When published he hoped the case would be fully illustrated.

Dr. Pernet suggested this case might turn out to be one of Pemphigus vegetans rather than a case of sporotrichosis.

Dr. J. H. Sequeira showed a case of *granulomata*. E. A—, a married woman, aged 53 years, came to the London Hospital for treatment of a crop of nodules on the arms and face. The patient's

father died from the effects of a "chill" when she was a child; her mother died from "bronchitis and dropsy." The patient had five children; two died in infancy from "teething and bronchitis." The eldest son, aged 34 years, was rheumatic, the others were well. There had been no miscarriages. The eruption was first noticed in May, 1915. It apparently began as a crop of red spots on the arms and face. The nodules increased in number. The patient had taken no medicine. She had enjoyed good health with the exception of headaches until the eruption appeared. Since then she had felt sick, and complained of frequency of micturition. She got her living as a washerwoman and perspired freely at her work, but not at night. She had lost weight but was not wasted.

The eruption consisted of a large number of papules about 4·5 mm. to 5 mm. in diameter on both arms from the knuckles to 6 in. above the elbows. Each lesion was raised above the level of the surrounding skin, hard, and with a rounded smooth surface. The colour was reddish-brown fading to a brown in the older lesions. In a few instances there was a small scale at the summit. The papules were deep in the skin. None of the lesions had disappeared, and there had been no ulceration or necrosis. On the face there were numerous lesions of the same type, the forehead and the areas in front of the ears being affected. All the papules were discrete except at the left elbow, where, near the olecranon, there were three raised brown patches about $\frac{3}{4}$ in. by $\frac{1}{2}$ in. without scaling, apparently due to the coalescence of a group of papules. On the fronts of the legs there were discrete areas of erythema about 1 in. in diameter covered with fine scales. These lesions alone caused itching. The papules caused no subjective symptoms, there was no evidence of visceral disease, and no enlargement of the lymphatic glands or other sign of tuberculosis.

The Wassermann reaction was negative (Dr. Fildes).

The blood examination showed some excess of large lymphocytes (21 per cent.), while the polynuclear neutrophiles were only 4 per cent. The urine was quite normal both in quantity and character.

A nodule was excised, and the sections showed an encapsulated mass of what were apparently fibroblasts. There was very little inflammatory reaction of round cells from the blood.

The condition was certainly an unusual one. At first sight the

lesions suggested a late syphilide, but the absence of mucous membrane lesions, the character of the sections, and the negative Wassermann reaction might be taken to exclude lues. The lesions also differed from the usual types of tuberculide, as they had not undergone central necrosis or ulceration. The sections also excluded xanthoma. In the absence of other indications the eruption appeared to be more closely related to the tuberculides or the small form of sarcoid than to other conditions.*

The PRESIDENT said that Dr. Sequeira was naturally in the strongest position; he had had the case under observation and investigated it. If he (the speaker) had seen it without outside influence, he would have regarded it as a syphilide, and even now he thought the grouping of some of the tubercles was very suggestive of that disease. It was the borderland cases which were so interesting and instructive. He asked if Dr. Sequeira would give a further report on the case. During the last few years he had been impressed by the varying opinions sometimes given by bacteriologists as the result of the Wassermann reaction. During the last six months he had seen a case which was submitted for the test, and was said to give a positive Wassermann; but he did not think the case was syphilitic on clinical grounds. The test was repeated by another equally expert pathologist, who declared it to be negative. He thought, therefore, one should be cautious about accepting as decisive one Wassermann reaction alone, seeing that it was a very serious matter and meant a prolonged course of treatment.

Dr. HAROLD SPENCE (introduced by Mr. McDonagh) showed a case illustrating the *result of arsenical intoxication ten months after one injection of Novarsenobenzol (Billon)*. Male patient, aged 25 years, contracted syphilis early in August, 1914, but had no treatment until October 31st, when he came to the Lock Hospital with well-developed "secondaries," including a profuse maculo-papular rash and mucous membrane lesions. Intramuscular injections of 40 per cent. grey oil were commenced, but after the sixth weekly injection it was discontinued. Three weeks later, namely, on January 3rd, 1915, he was given 0·6 grm. Billon intravenously. This was accomplished without incident; there was no phlebitis or induration at the site of injection and no immediate reaction of any kind, although he had a severe headache most of the following day. Immediately afterwards he felt well and the oral lesions improved, but on his return to the out-patient

* Since the patient was exhibited the Wassermann test has been repeated again with a negative result. As suggested at the meeting antisyphilitic treatment has been tried, but without benefit.

department six days later a diffuse erythema was noticed. When next he attended, which was on January 23rd, or twenty days after the injection, he had an established dermatitis, with œdema of the face and extremities, and pyrexia; consequently he was admitted into the hospital. He remained an in-patient from January to June inclusive, nearly six months, with a most pronounced and versatile general dermatitis, intense erysipelatoid erythema, being first associated with vesicles, blebs, pustules, and impetiginous areas about the hands, nostrils, and lips, and then a copious and prolonged universal desquamation. Concurrently he developed severe nasopharyngeal inflammation and a mucopurulent conjunctivitis with photophobia and smarting pain; he became weak and emaciated, his general condition for some time being such as to give rise to considerable anxiety. Every vestige of hair was shed and all of his finger-nails and toe-nails. Gastro-intestinal symptoms were absent, no kidney insufficiency was discovered, and there was no evidence of wrist-drop or lesions of special nerves. He left the hospital in June and for the following two months was semi-invalided at home, then returning to work.

It was now ten months since the injection had been given, and the members would observe the present condition. His hair had returned for the most part, although on the head there were a few small patches of cicatricial alopecia and a general thinning. The finger- and toe-nails had all returned and were perhaps as good as they were before. In places they seemed thickened, in others somewhat irregular. The extensive pigmentation of the trunk and extremities was quite characteristic; the muddy or greyish-brown mottled staining which they associated with arsenicalism, usually described as "raindrop pigmentation," was seen in quite a typical form. There was some xeroderma and still a fine branny desquamation, more obvious in some places than in others, but present pretty generally if looked for. The face had for the most part escaped except for an irregular blotch on one cheek, the area of which would add up to that of a half-crown. There was moderate keratosis of the palms and soles.

Dr. Pringle asked how long after the injection the symptoms appeared. He believed it to be a generally recognised clinical fact that some people were immensely more susceptible than others to arsenic, however administered. He remembered when, about twenty years ago, there was a revival of arsenical

treatment, many cases of arsenical keratosis were brought forward as the result of quite small doses of the drug administered internally. He had not previously seen anything like this patient's condition from the intravenous use of any arsenical preparation, but he did not question the accuracy of the diagnosis.

Dr. Bolam asked whether any œdema appeared immediately after the administration. This did not seem to be the kind of pigmentation one used to see following arsenic; and though he had lately witnessed a good many administrations of these drugs, he had not seen such a result. The patient's condition was more like the pigmentary disturbance following a general exfoliative dermatitis.

Dr. Pernet said he had seen very severe Pityriasis rubra in a young man following the intravenous injection of an arsenical organic preparation. He did not know what the exact substance was. He agreed with Dr. Bolam's remarks concerning pigmentation following Pityriasis rubra; when Pityriasis rubra cleared up, it was common to find very marked pigmentation, according to the complexion of the patient. In one dark subject the pigmentation was extremely marked, but after having examined the present patient he was of opinion it was an arsenical pigmentation.

Dr. J. H. Sequeira thought that the pigmentation in the present case was the result of the erythrodermia. When the salvarsan treatment was started, the late Sir Jonathan Hutchinson expressed a fear that there would be cases of arsenical keratosis, and this Section appointed a Committee to inquire into arsenical poisoning, but so far no meetings had been held.

Dr. Alfred Eddowes said he once saw an extensive secondary syphilitic eruption which had been mistaken for psoriasis. The patient had had small doses of Fowler's solution and a tar preparation for application to the skin. The result was that in a few weeks the patient was much pigmented and spotted like a leopard; there were dark spots wherever there had been roseola. The patient also had paronychia. The arsenic had aggravated the eruption.

Dr. Adamson regarded the pigmentation as typical of that seen in cases of chronic arsenical poisoning. It showed the characteristic "raindrop spots," or pale areas around the hair follicles.

Mr. McDonagh said that he had asked Dr. Spence to exhibit this case as it was a typical instance of the form of arsenical poisoning that had occurred only too often following the use of the English and French substitution products for "606" and "914." He had seen nine similar cases, two of which had ended fatally. In no case had more than two injections been given, and in some only one. In one case the dermatitis did not appear for nine weeks after the injection. Before the war he had only seen one case of exfoliative dermatitis following the use of salvarsan. He considered the pigmentation to be typical of arsenical poisoning. The occurrence of nine cases in so short a period excluded them as being coincidences, and pointed to the increased toxicity of the substitution over the original arsenical compounds.

Dr. Douglas Heath agreed that this patient had typical arsenical pigmentation. Pityriasis rubra and various other skin-diseases produced a general bronzing, but not a white picked-out point over the hair follicles. The pigmentation on the abdomen in this case he regarded as characteristic; he had seen the same appearance in people who had taken long courses of Fowler's solution.

Dr. Spence, in reply said that on the sixth day after the injection the patient had erythema. On the twentieth day he was seen again, and had well-marked dermatitis and fever, with œdema of face and extremities. There were no gastric or nervous phenomena. He had had to depend on other notes, but he did not think there had been any kidney disturbance. The patient was admitted into the hospital on account of his severe general symptoms, and afterwards had a great deal of desquamation; as one of the older nurses described it, one could almost shovel the scales off the bed, and shortly afterwards it was as bad again. He gradually improved, and at the end of six months it was considered safe to let him leave hospital, but he was in bed another two months at home.

Dr. Dudley Corbett showed a case of *lymphangioma*. The patient was a female child, aged 12 months. There was one other child in the family, a boy, aged 4 years, without blemish, nor was there any history which could be connected with the case. The child was perfectly healthy and experienced no inconvenience from the tumour, nor had there been any attacks of inflammation associated with it. The lymphatic glands were not enlarged anywhere. The tumour itself dated from birth, and the parents did not think that it had grown at all. It was situated in the left leg, extending from the middle of the thigh to the ankle, and rendering that limb notably larger than its fellow; even the left thigh above the tumour was thicker than that on the right. At its upper part, over an area the size of the palm of the hand, was a hæmoid patch which faded on pressure. Over it were scattered numerous dark blue venous tufts of varying size. Some showed signs of recent hæmorrhage, and some were quite hard to the touch like an angiokeratoma. Besides these venous tufts were a few transparent vesicles containing a clear fluid, which flattened on pressure only to fill up again when the pressure was removed. Similar vesicles were present all over the tumour, some quite clear, and some just tinged with red. In the calf of the leg the tumour was very bulky, and when grasped gave the sensation of a bundle of varices, though this point was not quite so marked as it was when the child first came under treatment. There was no tenderness anywhere.

The mother stated that the little venous tufts frequently bled, and the vesicles also exuded a clear fluid, but there was never any prolonged bleeding nor much leakage from the vesicles. The tumour never varied in size during the day, nor was its fluid content affected by gravity. Clinically the case seemed to be one of Lymphangioma

circumscriptum associated with hæmangioma. From the literature it appeared unusual to find one of such great bulk.

Large doses of radium were being applied, and as a result the tumour seemed to be much less tense than it was, and the nævoid patch was paler in colour.

Dr. Corbett said that he would be glad to hear from any members their experience in such cases of the effect of treatment, and their opinion as to the exact group of lymphangiomata to which the case properly belonged.

Dr. Adamson said he showed a case somewhat similar to this some time ago in which the nævus was blood-vascular and verrucose.* It was difficult to say how much of the condition in the present case was of lymphatic and how much of blood-vessel structure. In his own case diminution in the size of the nævus had resulted from repeated and prolonged applications of radium through a lead screen. He suggested the trial of X-rays applied through a 3 mm. aluminium filter.

Dr. Parkes Weber remarked that the case might subsequently become complicated by more or less permanent or intermittent lymphorrhagia (lymphorrhœa).

Dr. S. E. Dore showed a case of *urticaria pigmentosa in an adult*. The patient was a healthy and strong-looking man, aged 31 years. He had suffered from itching and a skin-eruption for eight years. The main features of the case were intense pruritus, marked factitious urticaria, and a macular, pigmentary eruption on the trunk and limbs of a permanent character. The itching was more or less general and was worse at night, considerably interfering with his sleep. Scratching was followed, almost immediately, by a copious eruption of small circular or oval wheals similar—with the exception of the œdema and pigmentation—in size and shape to the permanent macules, which also became turgid as the result of rubbing. The factitious urticaria lasted from a quarter to half an hour, generally about twenty minutes, and disappeared without leaving any trace on the skin. The patient stated that sometimes wheals appeared spontaneously. In addition to the evanescent factitious eruption there were scattered over the trunk numerous oval or rounded macules varying in size from a pin's head to that of a pea or small bean. They were reddish-brown to dark brown in colour and displayed no particular arrangement except

* *Brit. Journ. Derm.*, 1910, xxii, p. 263.

a slight tendency to follow the lines of the ribs on the sides of the trunk. They were more sparsely distributed on the upper arms and thighs, and almost absent from the forearms, legs, hands, and feet. No intermediate stage was apparent between the evanescent wheals and the permanent macules, but the patient thought the latter were gradually increasing in number. He had enjoyed good health with the exception of some recent dyspepsia, bronchitis during the past three winters, and an attack of tonsillitis twelve years ago. He had also had gonorrhœa, but there was no history of syphilis, and the Wassermann test was negative. His mother was said to have suffered from a skin-disease, but he did not know of what nature, and one of his children suffered from nettle-rash.

One of the macules had been excised for microscopical purposes and sections stained in polychrome methylene blue, and showed large numbers of mast-cells situated around dilated blood-vessels in the papillary and sub-papillary layers of the skin.

The only internal treatment had consisted of fairly large doses of calcium lactate, but this drug had exercised no influence upon the disease, a fact which the exhibitor thought was in harmony with other similar cases in which the coagulation time of the blood had been found to be hastened rather than prolonged.

Dr. W. Knowsley Sibley showed a case of *angiokeratoma*. The patient (I. H—) was a fairly healthy-looking girl, aged 12 years, who had for many years suffered from chilblains on the hands and feet. Ever since she was 3 years of age, small nævus-like puncta had been gradually appearing on the fingers and toes. The eruption was stated to have commenced on the outer side of the little fingers and the small toes. Of recent years the lesions had become more prominent, and some on the toes, especially those which had appeared on the adjacent surfaces of the dorsal aspect of some of the toes, had become hard and warty in appearance and feel. At times the lesions were slightly painful with a pricking sensation, and they occasionally bled. They varied in size from a pin's head to that of a small pea, occurring singly and in groups scattered over the dorsal surface of all the fingers, and especially on the toes.

A section of one of the lesions from the right big toe revealed a thickening of the stratum corneum and the stratum Malpighii, with

large cavernous spaces filled with blood corpuscles in the rête, together with a dilatation of the papillary and other blood-vessels.

The PRESIDENT said he had seen cases of this kind benefited by electrolysis.

Dr. PRINGLE feared that the results of electrolysis might be found somewhat unsatisfactory; he had done a large number of such needlings, and in some the results had been rather disappointing. His further experience had not fully confirmed the cheery views he expressed on the subject when he published, in 1891, the first English case in which electrolysis was tried. The keratomata often disappeared in a marvellous way, but when the blood-vessels were large, frequent repetitions might be necessary to cause their obliteration.

Dr. SIBLEY, in reply, said that he agreed that electrolysis should be applied to each of the lesions in order to produce some shrivelling of them, and this he proposed to carry out.

Dr. GEORGE PERNET showed a case of *extensive tertiary syphilis of the face improved by galyl*. The patient, a man, aged 29 years, first attended at the West London Hospital on September 7th, 1915, for an extensive scarred and ulcerated condition of the face of three years' duration. This had started about the right nostril, and had gradually extended in a serpiginous manner. The diagnosis of syphilis was made and confirmed by a large amount of scarring on the under surface of the penis, the result of a sore dating ten years previously, evidently primary, of phagedænic nature. The man had had no specific treatment, as the condition had apparently been mistaken for Lupus vulgaris. Nor had he been treated with X-rays or other local treatment likely to lead to scarring. The condition was not the result of a burn. He was ordered hyd. c̄ cretâ and 0·4 grm. of galyl, but as only 0·25 grm. of the latter was available on the morning (September 11th) he came for the intravenous injection, that was administered. The results were immediate, for though unhealthy when seen on September 14th, the ulcerated areas about the chin and elsewhere were rapidly healing. Since then some hyd. c̄ cretâ had been administered in a desultory way, owing to his infrequent attendance. The exhibitor had not seen him for some weeks until that day, when the face was found to be quite healed as far as the ulcerated areas and foci were concerned; the patient was feeling better than he had done for ten years.

Dr. H. W. BARBER showed a case for *diagnosis*. The patient, a soldier, went to the Front in December, 1914. His duties were to

take rations to the reserve trenches and to groom his horses on his return. As far as he knew the horses were healthy. In April of this year, when at Ypres, he noticed a rash on both legs extending from the knees to the ankles. He states that the rash began as "red spots," which became white in the centre and then burst. Owing to this eruption he was admitted to hospital at Ypres, and remained there ten days. He was treated first with a sulphur and then a white ointment, and recovered. Afterwards he was shifted to the Base, where he had to look after a horse suffering from ringworm. Three months later an eruption appeared—similar to the previous one—first round his wrist and later on his legs as far down as his ankles. The pain caused by the rash was so great that he could hardly walk, and he was taken into hospital at Rouen, where he improved under treatment, and afterwards was transferred to the 2nd London Hospital at Chelsea. He appeared fairly healthy; he had acne on his face and upper part of his back. From his iliac crests downwards his skin was covered with numerous scars, some of them quite 2 in. in length. The skin in this region was also very pigmented.

Dr. Barber said that he was indebted to Captain H. Sharpe, R.A.M.C., for permission to show the case.

His own view was that the cause was some parasite, possibly animal scabies or pediculosis, though he had not previously seen a case of either of these conditions in which there had been so much scarring. The markings on the buttock partook of a linear arrangement.

The PRESIDENT thought the condition was primarily Dermatitis herpetiformis. That did not necessarily exclude the view already expressed by others.

Dr. PRINGLE regarded the case as one of a primary pus-infection, aggravated by persistent scratching and rubbing.

Dr. W. KNOWSLEY SIBLEY showed a case of *horny growth on arm*. E. H—, a healthy married woman, aged 60 years, presented on the anterior surface of the left arm, just above the bend of the elbow, a horny growth, which measured 1½ in. in length and was slightly curved, pointed, and shaped like a bird's beak. It was hard and horny in consistence, and dark brown to black in colour, but had a fleshy base, and was stated to have commenced some six months ago as a moist wart, to which the patient had applied caustic. It was

growing entirely upon the soft tissue, and was not situate over a bony surface, as was usually the case with such growths.

Dr. George Pernet showed a case of *Erythromelalgia and Raynaud's disease.* The patient was a woman, aged 60 years, who first attended at the West London Hospital on August 2nd, 1915, when she exhibited a condition of erythromelalgia of the fingers, some of the Raynaud phenomena being also present. The condition was very painful, and kept the patient awake at night. There was a history of a miscarriage, and a subsequent Wassermann reaction was returned as "suspicious." Hyd. c cretâ was ordered, and high frequency current was administered by Dr. McDougal. This led to relief of the pain, and the patient was able to sleep. Until a fortnight ago she was generally much better, but after that the pain and sleeplessness returned. Though the erythromelalgia retroceded at first, the Raynaud phenomena became more accentuated, actual necrosis of greater or less extent occurring about the ends of some of the fingers. This may have been due to a stay at Margate, where the patient felt the cold very much.

Dr. H. W. Barber showed a case of *lichenoid and nodular tuberculide.* The patient was a male child, aged $4\frac{3}{4}$ years. The condition had already lasted for six months. The child had been fed in infancy on Nestlé's milk and barley water. The father had died from perforated gastric ulcer, but had previously been healthy. The child's mother and one brother were both healthy. In February, 1915, the patient had measles followed by bronchitis, and some weeks later the eruption appeared on the hands and knees, and afterwards on the trunk. The child had had lately a brassy cough, and the physical signs in his chest indicated pressure on the left bronchus with fibrosis and collapse of the left lung—presumably from caseous bronchial glands. The lesions on the trunk were lichenoid, and those on the hands and knees nodular.

Dr. F. Parkes Weber showed a case of *Herpes zoster associated with paralysis of the arm.* The case is described in detail at p. 408.

Dr. A. Winkelried Williams showed a case of *Granulosis rubra nasi.* The patient, a girl, aged 13 years, had suffered from the con-

dition since early childhood. Her nose was red and the skin wet with sweat. There were hyperidrosis and lumpy swellings (sweat gland abscesses) in the armpits. The hands and feet were cold and moist. The localised hyperidrosis of the cartilaginous part of the nose was very marked until about two months ago. A few deep-seated papules, under the diascope, gave the appearance of something between a hydrocystoma and telangiectasis. The patient was now much better, in fact she was getting towards the age when recovery usually took place.

CURRENT LITERATURE.

PEMPHIGOID ERUPTIONS FOLLOWING VACCINATION. W. H. Moore. (*Journ. of Cut. Dis.*, October, 1915, xxxiii, p. 667.)

This contribution is based on a number of cases of bullous dermatitis following vaccination which have occurred in St. Louis during the past two and a half years.

The following were the most important features of the cases:

Case 1.—Boy, aged 9 years, vaccinated November 2nd, the course of vaccination being normal. On December 18th he had a chill, followed by a rise of temperature, and next afternoon bullæ appeared about the neck and sides of the face, and gradually developed all over the body. In addition to the bullæ there were erythematous infiltrated patches, in some of which were concentric rings of bullæ as in Herpes iris. There was no pruritus. One week after he was first examined 8 per cent. of eosinophilia was detected in the blood. He was discharged two months after the eruption was first observed, bullæ being still present. The eruption was said to resemble a Dermatitis herpetiformis or chronic pemphigus in localised areas.

Case 2.—Boy, aged 6 years, successfully vaccinated on June 2nd. On June 15th an eruption of bullæ broke out on the face and spread over various parts of the body, the eruption being most marked about the mouth, chin, and genitalia. Blisters were also present in the mucous membrane of the mouth. By June 20th the bullæ ceased to appear and the general condition seemed better, but on June 26th the patient became markedly ill, coarse bubblings and fine, moist *râles* could be heard in the chest, and on June 27th he died.

Case 3.—Girl, aged 7 years, successfully vaccinated on November 2nd. On December 4th she had a chill, and next day bullæ appeared about the umbilicus, later on the soles of the feet, and then on various parts of the body. The eruption consisted also of erythematous patches which tended to coalesce into gyrate lesions. An examination of the blood showed 16 per cent. of eosinophiles, and in smears from the bullæ 35 per cent.

Case 4.—Boy, aged 7 years, vaccinated at the end of May. A bullous eruption appeared towards the end of June, the bullæ being serous and a few hæmor-

rhagic. Later on the patient developed pneumonia and died towards the end of August.

Case 5.—Man, aged 38 years, who developed a bullous eruption upon the upper part of the chest, axillæ, and extremities, six weeks after vaccination.

Case 6.—In this case red spots appeared on the body, hands, and forearms, twelve days after vaccination. This was followed by blisters containing at first clear fluid, which were widely distributed over the body and present also in the mucous membrane.

Case 7.—Man, aged 38 years, with a papulo-vesicular eruption which appeared about a month after vaccination. Blood examination showed 18 per cent. of eosinophiles. A fortnight after the eruption developed the patient died of bronchial pneumonia associated with syphilitic disease of the aorta.

Case 8.—Boy, aged 12 years. The patient was vaccinated in January, but the vaccination did not take. About a week afterwards a stomatitis developed, with reddened areas like mucous patches dotted over the tongue, which gradually subsided. Six weeks later the stomatitis recurred in the mouth, and concentric rings of bullæ began to develop on the backs of the hands and forearms.

A series of inoculation experiments were done from these cases on various animals, such as a calf, a monkey, guinea-pigs, and rabbits, and blood-cultures were made under aërobic and anaërobic conditions. All these experiments were negative, proving that the affection was not a vaccinia, but revealing no other ætiological factor. *Staphylococcus albus* growths were obtained in several instances, but were believed to be due to secondary infection.

From a consideration of these cases and of a number of others collected from the literature, the writer concludes that a constitutional and more or less symmetrical disease of the skin may occur from vaccination and be manifested by a great variety of lesions which may be divided into three groups:

Group A, terminating in rapid recovery with or without constitutional disturbance.

Group B, continuing as a chronic recurrent vesicular or bullous affection with or without constitutional symptoms.

Group C, terminating rapidly in death.

The vaccination may or may not have been successful.

The period of inoculation may vary from three or four days to four months. A majority of the cases vary from three to five weeks. The benign cases are manifested by smaller bullæ. Mouth lesions may or may not be present, and there may be slight or severe febrile disturbance. They may terminate in complete, uncomplicated recovery in a few weeks, or recur as a vesicular or bullous eruption, in crops, over a period of years (as in Pusey's case) as a true or pseudo-dermatitis herpetiformis.

The vegetating and scar-forming varieties are fortunately rare. All of the cases have a rise of temperature at the onset or during the course of the disease.

J. M. H. M.

Note.—In this country the name "pemphigoid" has been restricted to the group of eruptions usually described under the heading of Dermatitis herpetiformis. In none of the cases recorded in this paper were all the cardinal features of Dermatitis herpetiformis present. J. M. H. M.

BOUBA: FRAMBŒSIA TROPICA OF BRAZIL. Silva A. Filho. (*Boletim da Sociedade Brazileira de Dermatologia*, 1914, No. 1, p. 9.)

There appears to have been considerable doubt in the past as to the exact nature of this disease, which has received different names in various parts of South America. Dr. Filho shows that there has been confusion between the affection caused by the *Treponema pertenue* (Castellani) and various forms of leishmaniasis. He has studied 14 cases of bouba in which the specific pathogenic organism (*Treponema pertenue*) was demonstrated, and shows that this affection must not be confused with the espundia of Bolivia and with the ulcer of Torealba (Colombia).

The clinical features of bouba are those which characterise yaws. After a period of incubation of variable duration the disease is ushered in with an irregular pyrexia, general malaise, headaches, digestive troubles, and rheumatic pains. The primary lesion (bouba chancre or "mother yaw") is a red papule or nodule usually seen on the foot or lower part of the leg in the adult and about the mouth or nose in the child. It may persist throughout the disease, but usually disappears after some weeks or months.

Several weeks after the appearances of the primary lesion pyrexia and osteo-articular pains herald the generalisation of the eruption. This involves the face and trunk and the flexures of the limbs. The lesions are indolent and itching; in some cases the pruritus is intolerable. Each element is a small red papule or tubercle, which loses its epidermal layer and ulcerates. The nodules may be discrete or grouped. At the base of the ulcer the papillæ increase in size, and the lesions become papillomatous. The serous exudation may be abundant after the fall of the crust. The fully developed lesions vary in size from a lentil to a small nut, and their surface takes on a characteristic framboesiform appearance. The yellowish fœtid discharge dries up and the lesion disappears, leaving white or pigmented spots and scars. Palmar and plantar hyperkeratosis occur in most cases. The glands are always considerably enlarged and painful, but do not suppurate.

Dr. Filho is of opinion that the division of yaws into primary, secondary, and tertiary stages tends to confusion with syphilis, and is not justified, at any rate in the Brazilian cases, in which lesions of the deep ulcerative (gummatous) type are never seen. The secondary eruptions are in all respects similar to the mother lesion.

Bouba is most frequent in negroes, and is less prevalent in Brazil than formerly. It is not hereditary, but is inoculable and reinoculable. The Wassermann reaction is always positive in the eruptive stage.

The differential diagnosis between syphilis, verruga peruviana, leishmaniasis, blastomycosis, sporotrichosis, and pudendal granuloma is discussed.

Treatment by salvarsan and neo-salvarsan gives marvellous results; as a rule one injection suffices to remove the lesions, but it is better to give two doses. Iodide of potassium is of value, but the author has seen little result from the injection of tartrate of antimony. J. H. S.

CONTRIBUTION TO THE PATHOGENESIS OF THE TUBERCULIDES (SENSIBILIZATION OF THE SKIN BY BACTERIAL PRODUCTS). Siegfried Grosz and Richard Volk. (*Archiv. f. Derm. u. Syph.*, 1914, vol. cxx, p. 302.)

The writers concern themselves in this paper with a new idea in regard to the ætiology of Lupus erythematosus. They first discuss the evidence in favour of the tuberculous nature of Lupus erythematosus, and mention the fact that exposure to strong sunlight has been noted as an exciting cause of that disease.

They started with the working hypothesis that the presence of toxic substances in the skin, especially of bacterial toxins or of living bacteria, can sensibilize the skin to the action of light and especially of ultra-violet rays. They then carried out a series of experiments in which they injected guinea-pigs with various bacterial substances, namely, diphtheria antitoxin, old tuberculin, killed cultures of *B. pyocyaneus*, of *B. proteus*, of *B. coli*, and of tubercle bacilli.

From these experiments they were able to draw the following conclusions: That the "hypersensibility" of the skin to ultra-violet light can be enhanced by intracutaneous injections of killed tubercle bacilli, and that the skin of an animal ill with tuberculosis may become hypersensitive to light. They found that other bacteria could lead to similar results. With *B. proteus* and *B. pyocyaneus* they got negative results, and in one experiment only a strong positive reaction with *B. coli*. They think probably that the negative results were due to the fact that these bacteria are only facultatively pathogenic for guinea-pigs. They conclude that just as certain fluorescent bodies, such as chlorophyl, hæmatoporphyrin, eosin, etc., may sensibilize the skin to light, so may certain bacterial substances; and that these experiments suggest a new ætiological foundation for the pathogenesis of certain dermatoses which are localised to uncovered parts (Lupus erythematosus discoides, Acne rosacea). H. G. A.

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EDITORIAL NOTE.

At a Special Meeting of the Guarantors held on Thursday, December 2nd, 1915, the resignation of Dr. Sequeira from the Editorial Chair was read with regret.

Dr. A. M. H. Gray was appointed Editor, and he will have the assistance of Drs. J. L. Bunch and S. E. Dore as assistant Editors.

It was decided that during the continuance of the war the Journal should be published quarterly, the first number in 1916 being issued about March 25th. It is expected that the amount of material in the quarterly number will approximate that in three monthly numbers.

The annual subscription, including postage, will remain the same (one guinea), but single numbers of the quarterly issues will be published at six shillings nett.

We feel sure we may rely on the cordial support of our contributors and readers under the new conditions.

THE RELATIONS OF THE *STAPHYLOCOCCUS ALBUS* AND THE ACNE BACILLUS TO THE EPIDERMIS, AND THE EXCRETIONS OF THE SKIN—WITH SPECIAL REFERENCE TO THE LESIONS OF ACNE VULGARIS.

By T. H. C. BENIANS, F.R.C.S.,
Pathologist to the Prince of Wales's General Hospital, Tottenham.

(*Continued from page* 404.)

Part II.

The second part of this paper consists principally of some clinical observations on physiological and pathological conditions, and the theoretical application to these conditions of the experimental data already cited.

Application of Experimental Data to Physiological Conditions.

Whether bacteria assist in the normal physiological functions of the exterior of the body is uncertain, but it is conceivable that they do, especially when one considers their apparently important functions internally in the intestinal canal. We may, perhaps, admit that the ubiquitous *Staplylococcus albus* is of use in producing a certain amount of soapy matter from the fat on the skin, and possibly some glycerin may be set free at the same time, which by its hygroscopic action would help to keep the cuticle moist.

The other common skin organism, the acne bacillus, appears more often to play a pathogenic *rôle*. At the same time the experiments on the inter-relation of the acne bacillus and the *Staphylococcus albus* and *aureus* show that the former has a definitely inhibitory and even destructive effect on the two latter, under anaerobic conditions; the reverse is the case aerobically. It may be that this influence makes itself felt *in vivo* as well as *in vitro*. In this respect it is interesting to note that living cultures of *S. aureus* have been used to clear the throat of diphtheria bacilli in carriers of this organism. (The acne bacillus is stated by some to be closely allied to the diphtheria bacillus.) Whether or not these bacterial life processes constitute part of the normal economy of the exterior of the body, it seems clear

that the skin has been provided with certain protective properties which suffice in the ordinary way to limit these bacteria to their saprophytic existence.

The normal means of defence are apparently three:

(1) The keratinous covering of the skin—this horny layer covers the whole surface of the body, and dips down into the hair follicles; in certain circumstances, associated with the retention of bacterial products in contact with the skin, this keratinous layer is apt to hypertrophy.

(2) The presence of fats on the skin. I have referred to the recent experiments of Jobling and Petersen (8), showing that the unsaturated fatty acids inhibit the action of the tryptic ferments. My own experiments show that in the presence of olive oil the enzymes of the staphylococcus were unable to destroy keratinous matter. I have, however, attributed this failure to destroy the keratin to the production of an acid medium by the fermentation of the glycerin, in which acid medium tryptic ferments do not act. In either case it would appear that one of the functions of the fat thrown out on to the skin is to inhibit the bacterial enzymes, which enzymes would otherwise be able to act injuriously on the horny layers of the skin. This suggestion finds support also in the fact that on parts of the face where the keratinous layer is very thin, the sebaceous glands attain a marked degree of development. The reverse conditions obtain on the soles and palms.

(3) The anti-bodies of the tissues and tissue-fluids. It seems highly probable that this normal mechanism of immunity, whatever its nature, comes into play not only during actual infection of the body, but also where bacteria come into intimate contact with the less completely keratinised regions of the body surface, as, for instance, at the bottom of the neck of the normal hair follicle.

Pathological Conditions.

(1) *Increased output of fatty matters—seborrhœa.*—Numerous observers, following Unna (12) and Sabouraud (10), have established the fact that the acne bacillus occurs in abundance in association with excessive oily secretion from the skin, whether as cause or effect is not definitely decided, although it is generally considered that the

seborrhœa occurs as a result of the bacillary infection. Seborrhœa oleosa and sicca appear to differ in respect of the physical properties of the fatty substance present, and on its admixture with keratin. Sabouraud considers these two conditions to be processes of the same disease, whilst Unna does not admit that fatty material can so dry up as to form a distinct exfoliation on the skin. In the experiments described in this paper it was shown that the acne bacillus acting on certain forms of fat caused it to solidify at a much higher temperature than it originally did. It would thus more readily set into solid scaly masses, especially when mixed with keratinous *débris*. The effects of the growth of staphylococcus in the formation both of soapy matter and of masses of gelatinous material, when growing in contact with oil, may also come into play here.

These suggestions are not founded on personal bacteriological investigations of seborrhœic conditions.

(2) *Increased formation of keratin—hyperkeratosis.*—For the purpose of the general argument a short note on this condition must be made here. Unna has shown that the horn cell is keratinised chiefly on its outer surfaces, and that the interior can be digested out with pepsin. Keratin differs in its constitution from the albuminous material of the non-keratinised cell chiefly in its lesser content of water, and in the large amount of tyrosin (paraoxyphenyl amido propionic acid), which substance confers on keratin its strong reducing characteristics. In addition it contains an excessive though variable amount of loosely bound sulphur, which, however, appears to have no relation to the special physical properties of keratin. According to Unna (13), keratin formation takes place by the action of a tryptic ferment splitting the albuminous cell constituents directly into various amino acids (Abderhalden); these migrate to the periphery of the cell and enter into the formation of the keratinous shell. Tryptic ferments are produced by bacteria in considerable amount, and it is possible that these ferments, by their direct action on the epithelial cells, may lead to an excessive formation of keratin in cells as exposed. In this way those forms of hyperkeratosis associated with bacterial infection would find a ready explanation. The formation of the comedo also may find explanation on this basis, and will be referred to later.

Clinically a condition of hyperkeratosis may be associated with various forms of irritation, among which the products of bacterial

growth appear to be a not uncommon one ; probably the comedo is to be counted amongst these ; also that form of hyperkeratosis which frequently coexists with bromidrosis of the soles of the feet, and sometimes of the palm of the hand when this has been done up in plaster or bandages for some time. In two cases of this sort the writer has isolated an organism with morphological and cultural characteristics similar to those of the acne bacillus ; various cocci in addition are always present in abundance in these cases. The formation of keratin under normal conditions coexists with an increased blood supply, as in the skin papillæ, in the nail bed, etc. Pathological formation of keratin is also often associated with vascular dilatation. Hyperkeratosis of bacterial origin, then, may be a simple hypertrophy following the vascular dilatation that results from bacterial irritation. This does not, however, explain why such hypertrophied tissue should be keratinised.

If, on the other hand, we look on the formation of keratin as a directly protective manœuvre on the part of the organism to repel the inroads of the bacterial products, it would seem almost certain that some more vital source of immunity in the underlying tissues must be at fault, or else this more superficial and relatively imperfect method of resistance would not be called into play. Possibly the excessive horn formation results from a condition of hypersensitivity of the epithelial cells to the staphylococcus and acne bacillus. If this is the case we should be able to prevent the formation of the comedo if we could bring about a condition of desensitisation to the injurious bacterial products.

The lesions of Acne vulgaris.—Formation of the comedo : From whatever point of view we may regard the comedo it is essentially a production of the living body tissues, and hence this research, which deals with the relation of bacteria to dead matter, cannot throw much light upon its formation. We may, however, examine such data as we have. The comedo consists of a mass of keratinous epithelial cells, some fatty and soapy sebaceous matter, and often enormous quantities of bacteria, principally acne bacilli, especially in the deeper parts of the comedo. The mass may be hard or soft, apparently in proportion to the relative amount of keratinous and fatty material present. We do not know for certain whether this keratinous mass is derived from a normal process of exfoliation

going on in a follicle of which the outlet has become obstructed, or whether the condition is to be regarded as a true hyperkeratosis. The usual view is that it is a hyperkeratotic formation resulting from the irritation due to bacteria pent up in the obstructed hair follicle. Both views presuppose a primary obstruction of the follicle outlet, possibly due to dirt, or to the lanugo hair as some suppose; but it is not easy to show that the lesion does commence as an obstruction. For instance, one form of follicle obstruction often seen is caused by a definitely fatty plug, such as may be found in the large follicles of the nose and naso-labial furrow. This plug when removed can often be almost completely dissolved by fat solvents; in films it shows masses of both acne bacilli and staphylococci. It arises, as I believe, in alterations of the fatty excretions as a result of the growth of the bacteria in the gland outlet. This is a definite instance of obstruction of the follicle associated with bacterial activity, and this condition is usually stated to go on to comedo formation. My own experience, although perhaps somewhat limited, is that this condition does not go on to comedo formation, and is not associated with the usual inflammatory lesions of acne. It is a local seborrhœa, and probably its origin rests on a basis quite different from that of the comedo formation. This reasoning then, in so far as it goes, is distinctly against the formation of the comedo as a result of the primary obstruction of the outlet of the hair follicle. In addition it must be remembered that the comedo lies anatomically in the upper part of the hair follicle above the *debouche* of the sebaceous glands; the follicle is funnel-shaped, and the wide outer portion could not be easily occluded. The comedo, moreover, frequents those regions of the skin where these openings are relatively large.

It seems, therefore, probable that the trouble does not commence in an obstruction at the outlet of the follicle. If one examined the expressed comedo one finds frequently, but by no means invariably, that the lanugo hair is present. When, however, it is present, it is not found to be lying in the centre of the horny plug, but always at one side. If the comedo arose in an obstructed follicle it would seem more likely that the irritant contents would affect the whole of the follicle walls, and the hair would then be more or less centrally placed.

It appears, then, that the irritant force which leads to the forma-

tion of an excess of horny epithelium acts only on one side of the follicle; it is difficult to believe that the growth of the hair itself could effect this change, and it seems more reasonable to postulate a localised bacterial focus, to the irritation of which the epidermis responds by an excessive production of horny epithelium. For this result to follow on bacterial growth in an originally unobstructed follicle seems to indicate that the resistance of the underlying tissues to the infecting bacteria must be markedly inadequate. That there is this diminished resistance seems probable, inasmuch as patients suffering from comedo almost invariably suffer from acute pustular lesions, other than those that occur around the comedo itself, but caused by the same organisms as those present in the comedo, notably the acne bacillus. Moreover, Coenan (4) has shown that sufferers from acne exhibit a marked hypersensitivity to filtrates of the staphylococcus. A healthy person, on the other hand, may have abundance of both of these bacteria on his skin without being subject to those diverse lesions that go to make up the clinical picture of Acne vulgaris. Why, in cases of acne, the same organisms may cause both comedo and acute superficial follicular abscess will be discussed later.

According to this hypothesis, then, we are to look on the comedo as a hyperkeratosis in some localised region of a hair follicle, arising as a result of the action on the tissues of the products of bacterial growth, notably those of the staphylococcus.

Production of epithelial pigments.—It would not be possible here to go into the whole question of the formation of epithelial pigments and melanins in general; this matter is very completely discussed by Unna in a recent publication. It is sufficient to say here that horn pigment, such as that present in the comedo, differs in certain chemical characteristics from the various other forms of melanin, and is evidently a distinct substance. The various melanins, however, probably all arise in a somewhat similar manner, and certain factors seem to be essential to their formation. It appears that melanin is produced by ferment action, and that the presence of lipoids and oxygenating processes are essential to its formation. In the foregoing experiments it was shown that during the process of fat splitting by the bacterial ferments of acne and staphylococcus, a brown pigment arose in many instances. This matter will now be

further discussed and applied to the question of the origin of the blackened apex of the comedo.

Formation of pigmented head of the comedo.—The outer end of the comedo lying at the outlet of the hair follicle is usually blackened; on expression of the comedo it is seen that this pigmented area does not extend any distance below the surface, or it only does so when the comedo is large and lies more or less loosely in the dilated follicle. The epithelial mass is never blackened in its deeper portion. If the comedo is exposed at two points, as it may sometimes be, these two points alone are blackened. Present position of the question: The pigmentation is often ascribed to the collecting of dirt or carbonaceous matter in the fatty *débris* at the outlet of the glands. As long ago, however, as 1882, Unna showed that this blackened area was gradually decolorised by certain reagents, *i. e.* concentrated nitric and acetic acids, and strong solutions of H_2O_2, and that therefore it could not be carbonaceous material.

Microscopical examination.—If the expressed comedo be flattened out between two slides, and examined under a low magnification by either transmitted or reflected light, it will be seen that there are a certain number of irregular particles of black matter, presumably carbon, but that, in addition, the actual blackhead is due to a diffuse brown staining which in a still thinner layer is almost a golden colour. The apex of the comedo consists almost entirely of layers of keratinous cells, and the pigment is therefore disposed either in or about them. This is important, inasmuch as the high degree of resistance to various reagents manifested by this pigmented matter is also essentially a property of keratinised matter; although similar properties are certainly to be found in certain fatty and waxy substances.

Possible sources of the pigment.—The comedo consists of layers of keratinised epithelial cells, a certain amount of fat and quantities of bacteria, both staphylococci and acne bacilli; in the interaction of these forces, and in addition in exposure on the surface of the body we must look for the origin of the pigment. That the pigment is not produced merely in the drying of the exposed epithelial cells is easily shown by expressing the comedo and allowing it to dry in the air and sunlight; under these conditions we find it becomes shrivelled up, firm, and brownish in colour; the body of the comedo, however,

never acquires anything approaching to the deep colour present at the apex.

Action of the bacteria on the keratin.—In the earlier described experiments it was shown that although the keratin was disintegrated by the action of these bacteria it did not become altered in colour.

Action of the bacteria on fats.—It was shown that to some extent in the case of the staphylococcus, but especially with the acne bacillus growing in the presence of fat, a definite deep brown pigmentation of the fat developed in most instances. The production of this pigment was most pronounced with mutton fat and olive oil, and least when human fat and lard were used. The fact, however, remains that in addition to its fat-splitting properties, the acne bacillus may produce a definite brown pigment when grown in broth in contact with fat. As a rule the coloration appears about the third or fourth week, and, in the case of olive oil, not until a considerable amount of free fatty acid is present. Its presence is more constant, more pronounced, and it occurs earlier when there is a proportion of staphylococcus present in the acne culture. In the case of mutton fat which is incubated as a layer over sterile broth under aerobic conditions a certain amount of brown coloration may develop; this is, however, not the case with olive oil, which remains unchanged under these conditions.

Anaerobic conditions.—In some four experiments in which I have tested this point with both mutton fat and olive oil, enclosing the cultures in Buchner's tubes, the production of pigment has been entirely wanting. I think this point must have the closest bearing on the fact that the discoloration of the comedo occurs only on its exposed surface, and never in the deeply buried parts of the comedo.

Nature of the colouring matter.—This is a point that is not easily settled, because of the difficulty of separating the pigment from the fat in which it is dissolved. Fleming states that the acne bacillus in old cultures on glycerin agar is liable to show a brownish coloration. In cultures of the acne bacillus in glycerin bouillon I have not, however, been able to detect the formation of the colouring matter. Moreover, in cultures grown under a layer of pure oleic acid the latter becomes deeply coloured in the course of time, as does oil.

The coloration may be only a darkening of the liberated oleic acid, but the following experiment shows that it does not occur in proportion to the amount of the fatty acid set free, or of glycerin extracted from the fat.

Experiment.—A broth culture of acne bacillus was inoculated in equal amounts into two tubes of neutral broth; to one of these was added a layer of olive oil, to another a layer of clear white mutton fat. After four weeks' incubation there was a free growth in both tubes. The oil was definitely brown in colour; the mutton fat had liquefied and was of a deep mahogany brown colour. Equal amounts of the two fats were now taken, dissolved in ether and titrated with $\frac{N}{10}$ caustic soda solution. The oil gave practically the titre of pure oleic acid, the brown mutton fat gave a titre of less than one third of this amount of fatty acid.

Extraction of the colouring matter.—This was tried with various solvents, but without success. When the coloured oil was saponified and then the fatty acid thrown out again by heating with dilute mineral acid, the same degree of colouring accompanied it. In the case of broth cultures of acne under lard small discrete globules of a deep brown colour may form on the under surface of the fat floating in the broth. Some of these globules were removed and exhibited the following properties: They were soft, malleable, and somewhat sticky; when warmed, melting to a treacly fluid. They were insoluble in xylol, absolute alcohol, concentrated caustic potash, and 25 per cent. sulphuric acid. The globules, however, dissolved in a few minutes in oleic acid. They were completely destroyed by concentrated ammonia and changed to a white, soap-like substance.

Absorption of the pigment by keratin.—When shavings of horn were exposed to the pigmented oil for some weeks they became definitely yellowish brown in colour, and this colour was not extracted by fat solvents. The pigment had, therefore, a definite affinity for the keratin, inasmuch as it had left the fat in which it had been dissolved; or had with it become absorbed by, or adsorbed to, the horn shavings. The pigmented shavings resisted 25 per cent. H_2SO_4 but were at once decolorised by strong ammonia solution. Ammonia is both able to penetrate the keratin, as staining experiments with carbol fuchsin show, and also to destroy the colouring matter of the fat, as was just

pointed out. In addition, strong ammonia is the reagent that perhaps most readily decolorises the blackhead itself. Here again, similarity between the artificially and naturally pigmented keratin becomes evident.

The actual location of the pigment in the keratinous comedo: To decide whether the pigment is inside the epithelial cells or attached to them externally is a difficult matter. The characteristics of the pigment that we have examined experimentally, *i. e.*, its high degree of resistance to various reagents, are also those of keratin itself, and the substance, therefore, may equally well be either inside or outside of the keratinised cells. As regards the formation of the pigment in the comedo, if it is formed from fatty substances present in the keratinous cells, we must suppose either that the effects of bacterial growth made themselves felt inside the cell, or that the change took place spontaneously as in the experiment with mutton fat and sterile bouillon quoted above.

From this complex of factors certain conclusions may be drawn.

We have seen that the pigment of the comedo is brown in colour, and that it occurs only on the exposed aspect of the keratinous mass. We have seen experimentally that where the acne bacillus grows in broth in the presence of fat and under aerobic conditions (and especially if the staphylococcus is also present), it produces a brown coloration, which, when it penetrates into keratinous matter, confers on this substance appearances and properties similar in certain respects to those of the comedo pigment. It seems, therefore, probable that it is some substance such as this, and produced in this manner, which, being presented in a concentrated form, by the overlapping of the epithelial cells, gives the black appearance to the exposed surface of the comedo.

Origin and Course of Pustulation of Acne Lesions.

There may be said to be three distinct types of pustulation that commonly occur in a case of Acne vulgaris.

(1) Acute—follicular pustule.

(2) Subacute—pericomedonal abscess.

(3) Chronic—(*a*) Thin-walled tracking abscesses. (*b*) Fibrotic masses enclosing a small bead of pus and degenerate comedo.

(1) *Acute.*—These small follicular pustules constitute the so-called yellowheads. My own observations agree with those of most other observers (Gilchrist, Fleming, Whitfield), that the acne bacillus is in nearly every case to be found in them, and that it can often be obtained in pure culture. This type of folliculitis has been produced experimentally by Fleming with the acne bacillus, by rubbing a pure culture on to the skin. Our impression, then, of this form is that it arises from a sudden infection of a previously healthy hair follicle with the acne bacillus, by inoculation from the exterior. Presumably the bacterial growth in the follicle is too rapid to lead to or to permit of a protective keratosis, in other words, to a comedo. In the course of infection the bacteria either emigrate into the tissues at a point where the sebaceous glands enter the follicle, that is to say, where the keratinous lining of the follicle ceases; or else, and this is more probable, the chemotactic influence resulting from their presence is so great as to cause leucocytes to emigrate into the follicle, and thus it becomes filled with pus.

(2) *Subacute : Suppuration round the comedo.*—This phenomenon is almost certain to set in sooner or later in the life-history of the comedo. An abscess forms round the comedo with degeneration and softening of the epithelial cone. Whether this softening is primary or secondary is an open question. The degeneration is presumably due to digestion, and protein splitting ferments, as we know, are formed both by the leucocytes, and also by the staphylococci. We have to seek out the immediate cause of this suppuration. In the latent comedo the bacteria are entirely bound up in the protective layers of keratin that have been formed around them, and in this position they are unable to influence the tissues proper. In sections through the comedo it is often noticeable that the horny substance in the deeper parts is often found to be degenerated, and to have lost its characteristic staining properties. This appearance may be due to mucin, which is said to be produced by the acne bacilli, but it gives all the appearance in section of degenerate keratin. The experiments with keratin already given showed that staphylococci alone, or in company with the acne bacillus, can lead to degeneration of the horny tissues. In the presence of fat in the medium, however, this destruction of keratin did not take place. It seems probable, then, that the bacteria digest their way through the layers of the epithelial cells into the

tissues of the skin proper, and thus suppuration is set up around the comedo. This digestive property was not demonstrated in connection with the acne bacillus, and it is a striking fact, as was already pointed out by Whitfield (15), that suppuration around the comedo is apparently always of staphylococcal origin. During its early stages, whilst there is fat still present, the comedo does not tend to suppurate, but merely steadily increases in size. This view falls in with two commonly observed clinical facts, *i. e.* that in thick greasy skins where much fat is being excreted the comedo tends to be large and to suppurate late; whereas with smaller follicles and a less fatty tendency the comedo suppurates while still small; this latter is the so-called Acne punctata. It occurs mostly in women with delicate skins, and almost always the condition is temporarily improved by staphylococcal vaccine.

(3) *Chronic suppuration.*—The thick-walled tracking abscesses appear to arise in a gradual leakage of bacteria from the comedo; examination of the pus mostly shows only the acne bacillus; quite likely originally there is a mixed infection, the staphylococcus being subsequently killed out by the anaerobic conditions combined with the growth of the acne bacillus. In the thick fibrotic form of chronic abscess one usually finds the remnants of a comedo buried in the centre. The condition is usually looked on as constituting a protective fibrosis, and represents some aspect of immunity, the mechanism of whose production we are not yet fully acquainted with.

To sum up my own bacteriological experience of acne lesions I have found the acute follicular and chronic tracking forms of suppuration to be associated with the acne bacillus; and the pericomedal and chronic indurated abscesses with the *S. albus.* I have never found the *S. aureus* in association with the acne bacillus so far as I remember.

Bromidrosis.—Since certain of the ætiological factors of this condition have been referred to in the cultural experiments a brief clinical *resumé* will not be out of place here. The destruction of protein containing fluids, with the production of a foul substance, can be carried out by various bacteria, notably by the coliform organisms. In reference to the condition of foul sweat, however, we are concerned with those organisms which are present on the skin in these cases. This condition was ascribed by Thin to a special organism named the *bacterium fœtidum*; this organism was apparently a sporing bacillus,

and judging by the description a number of other bacteria were also present in the cultures.

In three cases of this disease I have examined I have not been able to identify this organism. In one case of bromidrosis of the soles, the writer isolated a small conglomerate Gram-positive coccus, which in pure culture on agar formed delicate grey colonies and carried the distinctive smell through four culturings on solid medium. In fluid media this organism grew in short chains, and it must be regarded as a short streptococcus. In two other cases of bromidrosis, one of the sole of the foot and one of the palm of the hand (this had been in plaster and showed marked pigmented hyperkeratosis), a bacillus morphologically identical with the acne bacillus and exhibiting a similar fat-splitting capacity was present in films, and grew freely in oiled broth culture. The staphylococcus was present in both cases. The smell associated with the acne bacillus differs from that due to the small coccus described above. The former is more penetrating, the latter more musty.

In the cultural experiments it was shown that the smell was to some extent diminished in the presence of fat, and that in this case it was mixed with a smell of fatty acids. This falls in with the clinical fact that bromidrosis of the soles and palms is more foul and penetrating, and that of the axillæ where sebaceous glands abound is more of a "fusty" nature. It was also pointed out that in culture the presence of glycerin leads to the production of acid in the medium, with complete suppression of the foul-smelling products. Details of a further and subsequent investigation of this subject have already been published by this writer (2).

Indications for Treatment arising out of the Previous Observations.

The most obvious indication arises in cases of bromidrosis where this condition results from the presence of organisms of the acne group. The application of glycerin, provided it can be made to reach the seat of bacterial activity, ought most certainly to prevent the production of the foul substances.

In the case of Acne vulgaris we have various lesions of different ætiology. The acute superficial follicular pustulation should be pre-

ventable by methods of cleanliness and external disinfection; it is not certain how much effect vaccine treatment can have on follicular infection. Suppuration around the comedo is readily treated, and cleared up with staphylococcus vaccine. Certain chronic forms of suppuration must be treated with both acne and staphylococcus vaccines; too favourable a prognosis must not be given since bacteria will lie latent for long periods in their fibrotic investments. The origination of the comedo is as yet uncertain. It remains to be proved whether it represents a localised protective hyperkeratosis, and if so whether we can substitute some more effective and less unpleasant form of immunity than that provided by masses of epidermis. If, on the other hand, it arises from a hypersensitivity of the tissues, it remains for the immunity researcher to find a method of desensitisation. To prevent the comedo would be a very great advance, but it is by no means certain, as stated by Sabouraud, that the comedo is the sole basis and origin of the whole of the polymorphic lesions of Acne vulgaris.

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SCLERODERMIA GUTTATA.

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With Report on the Histology by

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One of the most interesting features of the literature that has grown up around the subject of "White Spot Disease" since Westberg first wrote on the subject in 1901, being followed in 1903 by Sherwell and Johnson and since then by many other eminent dermatologists, is the fact that though the clinical picture is so similar in many cases, the histological findings vary to a marked extent. According to McKee and Wise these differences probably depend upon the length of time over which the lesions have been developing. This variation may be so marked as to make the microscopic findings almost contradictory. The elastic tissue is described as being increased, diminished, or unaltered; the lymph-vessels are dilated or narrowed; the blood-vessels are scanty, contracted or dilated; the connective tissue shows degeneration or hypertrophy; and the epidermis, which shows the fewest changes, is generally thickened, a phenomenon which is probably secondary to the changes taking place in the dermis. Clinically, McKee and Wise, of New York, in their communication to the *Journal of Cutaneous Diseases* of September, 1914, state that the consensus of opinion among writers is overwhelmingly in favour of recognising two distinct groups of disease giving rise to white spots. The first group comprises white spot disease, Morphœa guttata or circumscribed sclerodermia, the second group is represented by Lichen planus sclerosus and atrophicus; the first group belongs to the sclerodermia family, the second to the Lichen planus family.

The recorded cases commence with Westberg's case in 1901 of a girl, aged 11 years, with a history of asthma, pertussis, and measles. The lesions were of one and a half years' duration, were of a dense chalky white colour, with a smooth surface, and histologically showed marked hypertrophy of the collagen bundles.

Johnston and Sherwell's case in 1903 was of a woman, aged 26

years, of a poor physical development and neurotic. The lesions were dead white in colour, slightly elevated, smooth, and had a history of thirteen years' duration. The lesions were situated mostly upon the chest; there were also some striate atrophic spots at the base of the neck and over the shoulders; there was no sign of an inflammatory areola.

The histological changes occurred chiefly in the papillary body and the upper part of reticular layer. The authors considered that the lesion was as nearly a pure degeneration as is possible to imagine in the skin where processes are more than apt to show great complexity. Where the degeneration was most marked collagen had disappeared.

Sherwell also reported a case in a woman, aged 26 years, of a similar type to the above, but in which the lesion appeared more rapidly.

MacLeod's two cases were in a mother and daughter. In the mother the lesions were situate on the neck and chest, and some were surrounded by a red areola and varied in size from a pin-head to a split-pea. The daughter, aged 11 years, showed lesions on the abdomen and chest, and there was no inflammatory areola present.

Montgomery and Ormsby record two cases.

Case 1.—The case of a woman, aged 40 years, not neurotic, with a history of onset two years before. The larger number of spots were snow white in colour, started on the sternum and spread over the front of the chest, shoulders, and neck; they were sharply defined, a few having an inflamed areola and a tendency to range themselves along the natural lines of the skin. In this case later, round some of the spots, was a purplish and hyperæmic border, in which were numerous telangiectases. The histogenesis appeared to be a cellular infiltration with blocking of the vessels, followed by collagenous hypertrophy and finally by scar formation.

Case 2 was that of a woman, aged 49 years, highly neurotic, with a history of six years' duration with spots on the shoulders, chest, and back. Histologically the collagen bundles were hypertrophic, the lymph spaces were dilated, many of which contained small round, and connective-tissue cells.

Hagen records a case in a woman, aged 32 years, with no syphilitic taint and a history of prostration and shock. There were two patches in the middle line, one of twelve and one of forty spots, each varying

from 1 to 5 mm. in diameter, sharply defined, more or less angular. There was no infiltration. These lesions were soft and of one year's duration. Four days later, many similar lesions appeared. The Wassermann reaction was slightly positive.

Histologically the sections showed almost complete disappearance of collagen and elastic in a circumscribed area in the subpapillary portion of the corium, a condition only approached by the case reported by Johnston and Sherwell.

The peculiarity of this case is that it started as a morphœa-like condition and changed its lesions, so as to simulate Lichen planus atrophicus, and so shows the two lesions into which groups most writers agree that these cases fall.

Sequeira's case was that of a boy, aged 18 years, employed at railway works, who met with an accident four years previously, being severely bruised across the lower part of the chest on the left side. He made a good recovery from his accident; otherwise healthy. Six months previously he had noticed some alteration in the colour of the skin of the left leg and thigh and on the left side of his chest. When seen by Dr. Sequeira, he had extensive morphœa on trunk, confined to anterior and lateral parts of chest and upper abdomen on left side; this area was generally darker than the rest of the trunk, but scattered over it were a large number of white atrophic spots, about $\frac{1}{4}$ in. to $\frac{1}{3}$ in. in diameter; there were also three or four dark sclerosed areas which stood up above the general surface. The sclerodermatous and atrophic areas were both well marked.

On the left lower extremity was a band of scleroderma $1\frac{1}{2}$ in. wide running from a hand's breadth below the anterior superior iliac spine, widening out at the knee, and running to the dorsum of the foot. Three months later the diseased area had increased and fresh areas had appeared, notably one on the right side of the trunk, showing atrophic spots only; also on the thigh a new area of pigmentation with atrophic spots had appeared between the upper margin of the long band of morphœa and Poupart's ligament. The spots had been atrophic from the beginning.

Durhing's case was that of a female, aged 55 years, who had typical lesion of morphœa co-existing with atrophic areas on the neck.

Unna's two cases were of an old woman and a young girl, and the lesions resembled pieces of cardboard embedded in the skin. In

a recent lesion there was inflammation with loss of elastic tissue and collagen, a cellular infiltration, œdema, atrophy of epidermis and hyperkeratosis. In an older lesion the cellular infiltration had disappeared; the vessels had in many cases also disappeared; the lymph spaces had also got less, and there was loss of elastic tissue.

Jamieson's case was of a female, aged 39 years, who had white spot lesions with a narrow areola, rosy-pink or violet in colour.

Perry's case, a woman, aged 33 years, showed small white indurated spots with raised pigmented edges.

Hoffmann and Juliensberg reported a case in a man, aged 33 years, with some forty round or oval spots on neck, chest, and back. These spots had lasted for about four years, and nearly every spot had a hair in the centre.

Hexheimer showed a man, aged 22 years, who had several spots, some coalescing to form larger patches. There was slight infiltration.

Bunch's case was that of a girl, showing twelve typical lesions which all had made their appearance during two months; during the following three months several more made their appearance with the same indurated, dead white, porcelain-like characteristics. Some of the patches appeared to be slightly sunk below the surface, and some of the more recent showed a pinkish or pinkish blue areola.

MacKee and Wise reported a case in a man, aged 43 years, of a neurotic type, who had four spots only, of about ½ mm. in diameter; two of the lesions were on the penis and two on the scrotum. One lesion only showed a faint violaceous rim or halo. The colour was a striking white, the spots were sharply circumscribed and embedded in the skin, the surface smooth and lustrous. On palpation a barely perceptible resistance could be made out.

The two penile lesions were excised at intervals of six months. In the first specimen the essential changes were a dense and fairly deep cellular infiltration in the centre of the lesion, at the upper part of which was a fairly large area of degeneration; there was loss of collagen in the centre of the lesion, while at the periphery collagen showed a tendency to increase. The blood-vessels were increased in number, but were occluded by compression and by endothelial proliferation. The second specimen showed a distinct hypertrophy and hyperplasia of collagen, with reduction in the number of blood-vessels

and a disappearance of the cellular infiltrate, some loss of elastic tissue and an obliteration of the interpapillary pegs.

Warde's case in a woman, aged 31 years, showed lesions on neck, trunk, and extremities; there were some infiltration and coalescing of the spots which showed their grades according to age.

Riecke's case of a female, aged 50 years, had a large number of lesions of ten years' duration. Some had coalesced to form large patches and some showed a small depression in the centre.

Dreuw's case was a female, aged 49 years, who had several white spots, caused by the coalescence of small spots; the primary spots had their centres slightly depressed.

Petges's case, a woman, aged 25 years, presented several types of lesions, according to their age; around the lesions was a violaceous rose-coloured halo; the centre of the lesion was depressed and cup-shaped; the separate lesions did not coalesce.

Kretzmer reported two cases, one in a man, aged 35 years, in whom the lesions rapidly increased in size and number; there was no areola and an intense pruritus. The other man was aged 50 years. He had had the disease for twenty years and the spots were said to originate in a bulla. Spots developed under observation which were not preceded by a bulla and possessed a reddish areola.

The case that I am bringing forward is that of a woman, aged 55 years, who was an in-patient at the London Hospital in March, 1909, and treated as being a doubtful case of chronic alcoholic poisoning. She was complaining then of pain on being touched, especially on the abdomen and on the calves of the legs; she had also a prolapse of the uterus. She improved with rest and treatment.

At this time she gave a history of a severe fall three years previously, the abdomen and both legs being badly bruised, and of never having been well since. The accident was followed by pain in the stomach, which got gradually worse. Her knee-jerks were glib and her plantar reflexes were flexor.

The patient's father died of asthma when she was eighteen months old; her mother is alive and was well until two years ago, when she had bronchitis; her age is eighty. One brother died of consumption, aged thirty. She has five sisters alive and well.

She has had three children, but lost two in confinements; the remaining one is alive and well; she has had one miscarriage.

On April 29th, 1915, when I first saw her, she complained of pain in the abdomen coming on every two to three months, and a band of pain around the forehead. She had a fat, full face, suggesting an alcoholic habit, although she denied alcoholic excess at any time, and stated that for the last eight years she has taken no alcohol at all. She was garrulous, and there was a good deal of over-action in her face when talking.

The heart and lungs showed nothing abnormal; the liver was not enlarged.

On palpation of the abdomen there was pain all over, reaching as high as the costal margins; a pulsating aorta could be felt.

The pupils were equal, reacted to shading, and the eye movements were good.

The palate and the sclerotics were insensitive to touch. The cranial nerves showed no abnormality. The knee-jerks were glib and equal; sensation was good over the legs; the plantar reflexes were flexor; clonus was not present; passive position was good, and the calves were slightly tender on deep pressure. There was no sphincter trouble. There was no history of syphilis, and the Wassermann reaction was negative.

On the right side of the *abdomen*, between the umbilicus and the groin, in the area corresponding to part of the distribution of the tenth dorsal root and not extending over the middle line, was an area 9·5 cm. × 3 cm. at its widest part, in which were some seventy individual lesions of a pearly white colour let into the skin like a mosaic, flush with the surrounding skin, some discrete, others joining with neighbouring spots to form an irregular pattern; where fusion was present, on pinching up the skin the division could be made quite plain. Most of the solitary lesions were about the size of a pin's head, and between them, except where they joined, was a band of normal skin.

Each plaque was indurated, showed no umbilication, was anæsthetic, and showed no inflammatory zone around.

The indurated skin on moderate pressure retained its mosaic-like structure, but bent on firmer pressure.

Above the whole lesion, and extending to the upper and inner and

to the upper and outer ends, was a border of very fine telangiectasis, well seen in Fig. 1, 1·5 mm. in width.

In about half the number of the separate lesions were one, or two, minute, telangiectatic red spots, in one instance two connected by a fine red line. A portion of the affected skin was removed for microscopical examination.

On the *left leg*, just below the knee on the outer side, was a second group of lesions, 4 cm. × 7 cm., extending diagonally down and out, of a more or less square shape, particularly at the lower end in the skin area supplied by the fifth lumbar root (Fig. 2).

The individual spots numbered about forty, and in one lesion only there was a minute telangiectasis. Several of the spots appeared umbilicated, and there was no inflammatory areola.

In two instances the spots tended to coalesce and form larger masses than in the abdomen, the largest measuring 1 cm. square and the other about one half that size.

There were a few scattered telangiectases in the leg in this region, but they bore no apparent relationship to the lesions.

The spots on the leg were not so white as those on the abdomen, the induration was not so marked. The characteristics were similar, but they did not show up in such a decided manner.

In the centre of the patch, and showing in Fig. 2, were two raised papules of a brownish colour.

The patient's own account was that the white spots appeared as a papule first; they then irritated, were scratched, and died away leaving a white spot. One papule was removed for examination.

The area on the leg had not been present for more than three weeks in its present size. Formerly there were only a few spots, and the patient had her attention drawn to them by the irritation.

On September 22nd, 1915, the lesion was about the same size; there was a scar across the lesion where the portion had been excised; the remaining papule had disappeared, without, I think, leaving a white spot behind. The scar had altered the relationship of the spots, and it was not possible to be certain as to this point.

In the older lesion on the abdomen the case appears to differ clinically from any of the reported cases in the literature in its association with telangiectases which appear round the upper, inner, and

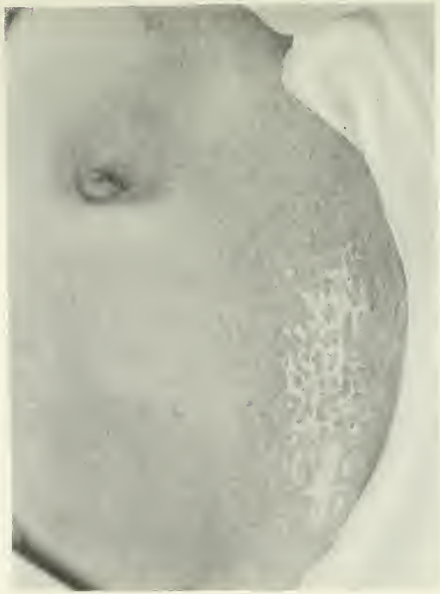

FIG. 1.

FIG. 2.

TO ILLUSTRATE DR. SILVA JONES'S CASE OF SCLERODERMIA GUTTATA.

outer margins of the lesion, and which are also seen in the spots themselves, facts which are brought out in the accompanying photograph.

The spots on the leg differ from those on the abdomen because :— some have coalesced to form a larger area ; they are not so white in colour ; some are umbilicated ; the induration is not so marked ; in only one white spot is there a telangiectasis ; although there are a few scattered telangiectases in this region they have no apparent relation to the lesion itself.

Dr. Hubert M. Turnbull has kindly examined the two portions of skin removed, and his report is as follows :

Pathological Report by Hubert M. Turnbull, D.M.
(Director of the Pathological Institute of the London Hospital).

Specimen S.D. 603, 1915 : *Macroscopic appearance.*—A spindle-shaped portion of skin, which measured 3 by 0·6 cm. The epidermal surface was white and covered by fine wrinkles ; it resembled parchment. The skin was 0·1 cm. thick ; beneath it was subcutaneous lipomatous tissue, which measured 1 cm. at its thickest.

After the specimen had been fixed in 4 per cent. saline formalin, a portion, A, was excised and embedded in paraffin. The remnants, B, C, and D of the specimen, were embedded later and were cut into serial sections.

The sections were stained by hæmatoxylin with eosin, Weigert's elastin, and Jenner's stain, and by the methods of van Gieson, Unna-Pappenheim, Weigert-Gram, Twort, and Ziehl-Neelsen.

Microscopic appearance. A. Sections from original block.—The skin is abnormally thin. In the dermis there are at intervals large, lenticular areas of very dense, homogeneous, collagenous tissue. These areas reach the epidermis, but leave intact a portion of the deepest part of the dermis. There are also small areas of similar sclerosis, which involve only a narrow portion of the dermis, immediately beneath the epidermis. In the areas of sclerosis there are very few fibro-blasts and elastic fibres ; there are usually no elastic fibres where the sclerosis involves the papillary zone. The areas contain a few capillaries. In many areas the capillaries are much wider than normal. Some of the small areas consist simply of a zone

of homogeneous, collagenous tissue round a widened capillary. A few of the vessels included in sclerotic areas have, beneath their endothelium, a zone of hyaline tissue which is stained yellow by van Gieson's method and has no affinity for Weigert-Gram's stain.

In the epidermis over the sclerotic areas there are no papillæ; the Malpighian layers are greatly narrowed, and the horny layer is broadened. Beneath one of the larger sclerotic areas there is a cystic sweat duct; it contains a coagulated substance in which there are spaces left by dissolved crystals. Beneath another area is a group of large, multinuclear giant cells.

In the portions of dermis which are not sclerosed many capillaries are widened, and there is extensive cellular infiltration. The endothelium of a few of the widened capillaries rests upon a zone of hyaline tissue which is stained yellow by van Gieson's method and has no affinity for Weigert-Gram's stain. This hyaline necrosis is not confined to the wall of affected vessels, but may involve adjacent collagen fibres of the dermis. The infiltration is perivascular. In places it is confined to a narrow zone around a vessel; in places it forms conspicuous cellular patches. These patches lie in the upper part of the dermis, at the borders of sclerotic areas. The cellular infiltration consists of plasma cells, lymphocytes, proliferating fibroblasts, and a very few tissue Mast cells. The lymphocytes are relatively abundant where the infiltration forms cellular patches, the plasma cells where the infiltration is more strictly perivascular. A group of sweat glands is included in the section. The glands are not surrounded by infiltration. There are only a few cells containing granules of pigment in the epidermis. These cells are equally distributed in the epidermis, whether it covers areas of sclerosis or not.

B, C, and D. Serial sections from remnants of specimen.—In general, the abnormalities are similar to those seen in block A. Portions of the dermis in which there is no sclerosis are broader than those in which sclerosis is present. Perivascular, cellular infiltration is present in all sections; it affects the outer part of the dermis especially. The majority of the patches of conspicuous infiltration lie in the outer part of the dermis, a few lie in the deeper part. A few proliferating fibroblasts are epithelioid. In areas in which the infiltration is abundant the elastic fibres are separated and are greatly

reduced in number. In the majority of the sclerotic areas there are few or no elastic fibres of normal thickness; in some areas there are a few abnormally delicate fibrils. A hyaline zone which is stained yellow by van Gieson and has no affinity for Weigert-Gram's stain is present round many vessels in both the sclerotic and non-sclerotic areas. The affected vessels usually have a wide lumen, but in some cases the lumen is obliterated, the endothelial cells being in contact. In one series of sections there is, in the lower part of the dermis, a structure which appears to be a vein whose lumen is occupied by a vascularised, infiltrated granulation tissue.

In the sections there are several small cysts formed by dilated sweat ducts; they lie deep in the dermis and contain a coagulated substance. There are also groups of large, multinuclear giant cells; these lie immediately beneath, or, in one case, immediately to the side of, sclerotic areas. Portions of the proximal part of sweat ducts are included within sclerotic areas; one lies above a cystic sweat duct. The lumina of these included portions of sweat ducts are minute. The groups of giant cells lie higher in the dermis and correspond in position more closely to sebaceous glands. The portions of tissue cut in series are, unfortunately, too small to allow the complete connections of the dilated ducts or groups of giant cells to be traced. There is no cellular infiltration round the dilated sweat ducts.

There are many hair follicles, sebaceous glands, and sweat glands of normal appearance in the non-sclerotic areas. Cellular infiltration round these, apart from infiltration round adjacent vessels, is only present in the case of two hair follicles, and is very slight.

In the epidermis there are very few pigmented cells. In a few cells of the basal layer the nucleus is pyknotic and the protoplasm shrunken. There is no appreciable difference between the number of these degenerate cells in the portions of the epidermis which lie over sclerotic areas and in those which do not.

No organisms of any kind were demonstrated by the methods of Twort, Weigert-Gram, and Ziehl-Neelsen.

Specimen S.D. 681, 1915: *Macroscopic appearance.*—A portion of skin, which measured 1·5 by 0·3 cm., and was 0·1 cm. thick. Beneath it there was a little subcutaneous lipomatous tissue. The epidermal surface was white and finely wrinkled; in its centre was a

well-defined, slightly raised nodule, which measured 0·2 cms. in diameter, and was of a very pale yellowish grey colour.

The tissue was bisected, and one half embedded in paraffin. Much of the block was cut away in providing the first sections; serial sections were cut from the remainder.

Microscopic appearance.—Within the dermis is a large cyst. It lies slightly nearer the epidermis than the subcutaneous tissue. It is lined by squamous epithelium, and contains calcified *débris*. There is no stratum granulosum in its lining. The upper and lateral aspects of the cyst are surrounded by a narrow zone of an areolar connective tissue. This consists of delicate fibrils, which are stained yellow by van Gieson's method, and of spindle fibroblasts; it contains no elastic fibres. The zone is infiltrated in places with a few lymphocytes and epithelioid cells. In the remainder of the section there is slight infiltration round many of the vessels. This infiltration is most marked in the neigbourhood of the cyst. Papillæ are absent from the epidermis over the site of the cyst.

In the serial sections the appearances are essentially similar. Two hair follicles, a sebaceous gland, and sweat ducts and glands are present. There is no infiltration immediately round these structures. One sweat duct curves round one side of the cyst. The distal extremity of another sweat duct is considerably dilated, and contains albuminous substance. The connections of this dilated sweat duct and of the large cysts are not displayed by the series of sections. There are no areas of sclerosis in the dermis.

Histogenesis.—The main features in the sections of *the first specimen* (S.D. 603, 1915) are: A perivascular infiltration of the dermis, which is either confined to a narrow zone round vessels or forms larger cellular patches; proliferation of fibroblasts and destruction of elastic fibres in these patches; widening, congestion, and a hyaline degeneration in and around the walls, of many vessels in the outer part of the dermis; the presence of sclerotic fibrotic areas in the papillary and adjacent outer portions of the dermis, either in the form of narrow zones round vessels or of large lenticular regions; the frequent presence of patches of infiltration at the borders of these sclerotic areas; the scarcity of elastic fibres of normal thickness in the areas, and the presence of abnormally fine elastic fibrils in a few; the presence in the sclerotic areas of vessels which show

abnormalities similar to those in other portions of the dermis; the inclusion of portions of sweat ducts in the sclerotic areas; cystic dilatation of sweat ducts in the deeper part of the dermis; groups of very large, multinuclear giant cells immediately beneath, or against the side of, the sclerotic areas.

These features would appear to be explained best on the assumption that the dermis is the seat of a chronic inflammation which is excited by some damaging agent brought by the blood stream. The sections afford no evidence that this agent is a bacterial product. The agent causes necrosis of the walls of vessels, particularly the capillaries in the papillary zone, and excites a reaction in the surrounding tissue, which leads ultimately to the formation of dense scar tissue. As in other scar tissue the original elastic is destroyed and a later formation of new elastic fibres is demonstrated by the appearance of abnormally delicate fibrils. Owing to the presence of scar tissue in the outer zone of the dermis, sweat ducts are constricted and their dependent parts become cystic. Portions of sweat ducts or other epidermal appendages are destroyed by giant cells.

Unfortunately the small size of the specimen, and the destruction of the greater part of the original block by a partially trained servant, did not allow the above explanation of the pathological process to be proved or disproved by serial sections. The groups of large, multinuclear, giant cells resemble those which are sometimes found in operation scars. In operation scars the giant cells may be found surrounding sweat ducts or other epidermal appendages. In the case under discussion it must be stated that no trace of any epidermal or other body was found among the giant cells.

The second specimen (S.D. 681, 1915) was removed in the expectation of demonstrating the earliest stages of the process. In this section, apart from slight perivascular infiltration, the only abnormalities were a large epidermal cyst and a slightly dilated sweat duct.

It is impossible to believe that the features seen in the first specimen were initiated by the formation of epidermoid cysts. The process might, however, have originated in an inflammation of epidermal appendages, and such an inflammation might have led incidentally to the formation of cysts. Such an origin appears most unlikely in view of the healthy appearance of the epidermal appendages in the non-sclerotic, but infiltrated, portions of the dermis in both specimens.

Thus, there was no infiltration within or around the sweat ducts and glands; infiltration was only present round two hair follicles, and was slight in amount.

It is more probable that the cysts in the second specimen were due to the process assumed above; that is, to involvement of their upper connections by areas of sclerosis. Unfortunately, the amount of tissue available for serial sections was not sufficient to reveal these connections. No areas of sclerosis were present in the sections obtained, but on macroscopic examination the finely wrinkled, white appearance of the epidermal surface indicated that sclerosis was present in parts of the specimen.

I wish to thank Dr. J. H. Sequeira for his kind permission to publish the case and for his help in many ways.

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ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Meeting held November 18th, 1915, Dr. J. H. Stowers, President of the Section, in the chair.

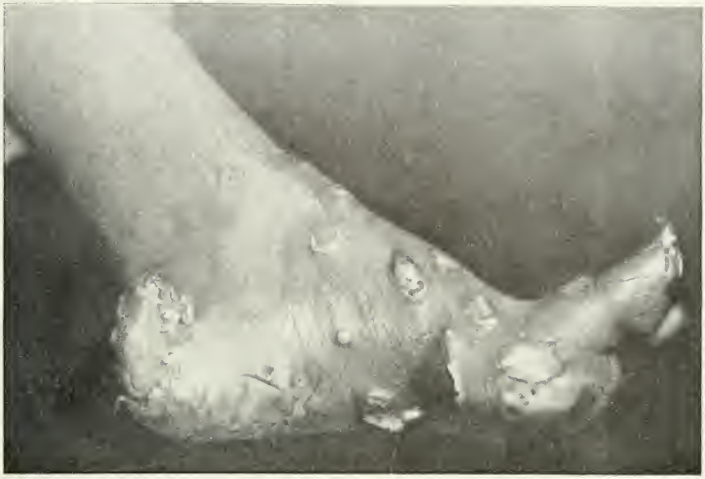
Dr. E. Graham Little showed *a boy, aged 15 years, of English parentage, showing very septic ulceration of undetermined nature.** The case, first shown at the last meeting, remains very obscure in causation. We have had the patient in St. Mary's Hospital since the last meeting, and the lesions have steadily grown larger and more numerous. There is the same sloughy ring surrounding an extremely foul ulcer, which was characteristic of some of the lesions seen at the October meeting. A certain number of blisters have been noted from time to time—isolated, thick-walled blebs. The contents of one of these was examined, by film and culturally, but nothing was found; it was sterile in the unbroken stage. The bacteriologist at St. Mary's Hospital has also examined the ulceration, and reported nothing specific from that, except the presence of a surprising number of pyocyaneus organisms. We have regarded that as a possible factor in causation, and have given the patient a vaccine made from his own streptococcus and from his pyocyaneus. I am sorry to say the boy's condition is very septic, and he is obviously getting worse; but for that I would have brought him again to-day. I have to-day examined the section of one of the granulomatous lesions, but found nothing at all characteristic. There is some acanthosis and a good deal of ordinary infiltration round a prolongation of some of the lesions, but there is no specific organism to be found in the skin. There is

* Exhibited at meeting of October 21st, 1915, see *Brit. Journ. Derm.*, xxvii, p. 418.

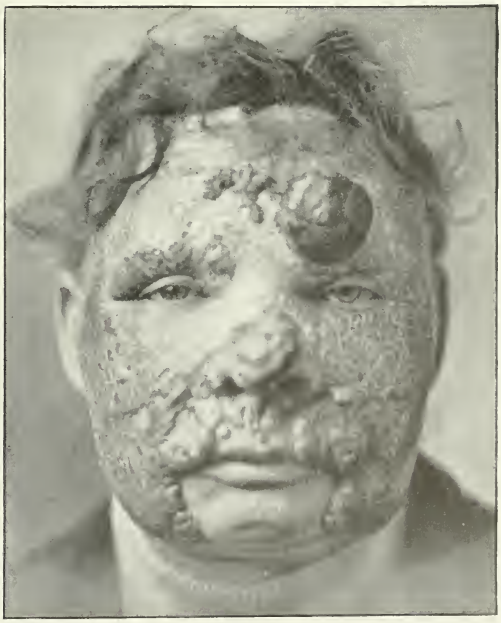
certainly no evidence of sporotrichosis, and, as I said last time, that was a tentative diagnosis, founded chiefly on the way in which it was reported to have originated and spread. Blisters are infrequent, and are not at all necessary predecessors of the other lesions. There has been no elevation of temperature, and, except that the ulcerated lesions are in a very fœtid and foul condition, the boy is in much the same condition as you saw him. Some of the ulcers now look like large medallions, raised above the skin level. These lesions are spreading, especially on the fingers, hand, and the wrist, and one of them is three times the size it was when he was exhibited. I have tried to stop their spread by painting with pure carbolic and then wiping over with alcohol, and we have tried all the resources which Sir Almroth Wright has been introducing into the work of our hospital, in the matter of irrigation and so on, which has been a subject of debate before the Society. There is a history that the boy's mouth was very foul before admission, but I have not seen any involvement of the buccal mucous membrane. He is a London resident, and has never been out of England.

The PRESIDENT: I hope Dr. Little will give us a still further report of the case later on.

Dr. E. G. GRAHAM LITLE also showed a case of *chronic ulceration (Ulcus molle serpiginosum), probably due to inoculation with Ducrey's bacillus of soft chancre.* The history, which was given with great frankness and detail, is as follows: The patient, a British solicitor, aged now 43 years, had sexual intercourse in a British south coast seaport with a street-walker on January 26th, 1902. Within the three days following this there developed on the penis two soft sores, which healed within the week. Some three weeks later a bubo developed in the right groin; its nature was not at first recognised, and it finally burst spontaneously, in March, 1902, and a large quantity of matter was evacuated from it. In view of the subsequent happenings it is of interest to note that the woman from whom the infection was derived was a native of this country, and the patient had not been and has not subsequently been in any tropical country, and, in fact, has spent the last eight years in British Columbia. On the site of the first bubo an ulceration remained, and from this focus a serpiginous, very slowly advancing ulceration spread in a manner



To Illustrate Dr. Graham Little's Case of Septic Ulceration.



To Illustrate Dr Pernet's Case of Lupus Vulgaris Exuberans.

which has always been the same: that is, the central areas healed while the disease spread at the periphery, and in this way the whole surface of the thigh, the right lower half of the abdomen and the back of the body up to the level of the midriff on the right side is seamed with healed scars, with curious trabeculæ of normal tissue running over the affected area. At the present time the ulceration is confined to the lower margin of the great sheet of seamed skin bounded by the limits named above, and a complete ring of contiguous but discrete ulcerations, averaging each the size of a walnut and arranged in a sinuous line, encircles the leg just below the knee. All the surfaces of the thigh are affected, with the exception of a small area on the inner aspect of it just below the groin. The ulcer presents an undermined edge, is moderately deep, hardly at all painful, and seems to heal partially as mentioned above, in the part in contact with the region scarred by previous ulceration. The ring of ulcerations thus forms a demarcation between healthy tissue and the scarred region. The patient has never been free of some ulceration in some part of this area in the past thirteen years, and he has used absolutely no treatment except that of local dressings of lint cut in small circles to cover each individual ulcer, to which it is rendered adherent by ointment. He has had no constitutional treatment whatever. He has been and is in otherwise excellent health, though he seems to have roughed it considerably in Canada. His blood gives a negative Wassermann reaction.

Mr. McDonagh: I think the case is a typical case of Ulcus molle serpiginosum. The case interests me particularly, since my article * on the subject was, I think, the first that appeared in the English language, and because this is the first case brought to my notice in which the whole course of the disease has been run in this country. I have had seven cases under my care, and all occurred in men who had been in the tropics. The disease appears to start either from a bubo which has burst of its own accord, or from one into which a big incision has been made; in both instances a certain amount of local necrosis of the skin is very liable to occur. Under ordinary circumstances, Ducrey's bacillus is an extra-cellular organism, but in the cases of Ulcus molle serpiginosum which I have carefully examined, the organism has not only taken to an intra-cellular habitat, but it has also changed its form. Possibly the local necrosis above referred to is the starting point of this change, since I have never seen a case develop in which only a small nick was made into the bubo to let the pus out.

Dr. Pringle: Although the general circumstances in this case undoubtedly

* McDonagh, *Brit. Journ. Derm.*, 1914, xxvi, p. 1.

suggest the diagnosis of syphilis, a close examination of the scar at once shows that it is not a syphilitic one; there are a large number of islets of apparently moderately healthy tissue in the midst of the scars. I remember Mr. McDonagh's paper on the subject of "Ulcus molle serpiginosum," and from it was enabled to make the diagnosis, which he has confirmed. I have never seen a similar case, and I am sure they must be extremely rare in this country. I would ask Mr. McDonagh whether a diagnosis could be made from a bacteriological examination of the spreading margin of the ulcers at this period of the disease; and whether scraping or destruction by caustics can be successfully practised.

Dr. Gray: I would like to know whether in the cases which were scraped a strong caustic was applied afterwards.

Dr. Pernet: When buboes are unhealthy, breaking down, phagedænic, and undermining as a result of mixed infection, I have observed that thorough scraping makes matters much worse.

The President I should like to know whether 200 gr. daily of iodide of potassium is the maximum amount given by Mr. McDonagh, and whether he thinks a corresponding advantage is conferred upon the patient by such large doses.

Dr. Dore: Has X-ray treatment been tried in cases of this description? Many chronic ulcerations yield to applications of the rays, and it seems reasonable to infer that they might prove beneficial in this case.

Dr. Knowsley Sibley: I would ask whether Mr. McDonagh has tried freezing in these cases, such as by means of snow. We know how satisfactorily soft sores heal up under freezing processes. With regard to the giving of large doses of iodide of potassium, I am very sceptical that anything over 4 or 5 gr. doses is of any use; anything beyond that I look upon as waste. I have heard of dermatologists prescribing 1000 gr. doses of iodide of potassium. I think it is the opinion of those who have worked at the matter that 4 or 5 gr. is as much as is absorbed in a dose. I have been interested in the principle of giving nascent iodine: 20 gr. are given once a day immediately after breakfast, and four, six, and eight hours afterwards chlorine water is given; that liberates the iodine, and you get a much greater effect. On that principle everything that is given over 4 or 5 gr. acts as a hindrance by keeping imprisoned the iodine and preventing it liberating itself. In this case I would suggest painting with acetone and CO_2, filling the little excavated ulcers with the freezing mixture.

Mr. McDonagh (in answer to questions asked): The organism can easily be found under the spreading edge of the ulcer. The undermining of the edge is typical of the condition, and it exactly resembles the original soft sore, only naturally on a larger scale. Under the undermined edge from that part of the ulcer which is spreading the organisms can be readily demonstrated in section. In my experience all forms of operative treatment have made matters worse, even careful excision. X-rays and radium proved ineffective. The only treatment I have found to do any good is to give iodine internally and externally. I always give increasing doses of potassium iodide internally, and apply camphor phenol and iodoform externally, being very careful to get well under the undermined edges. Intravenous injections of antimony and ionisation with zinc chloride have also proved useful.

Postscript.—Since the case was shown Dr. Fleming and Dr. Colebrook, of the Inoculation Department at St. Mary's Hospital, have seen the patient and recognise the strong similarity clinically to a case of chronic ulceration which was treated in the department some years ago, and was then demonstrated to be due to an inoculation with Ducrey's bacillus. An attempt will be made to obtain a vaccine from this patient's ulcers, and to try this therapy.

Dr. George Pernet showed a case of *Lupus vulgaris exuberans complicated by epithelioma.* The patient is a woman, aged 50 years, who states that at the age of six a "wart-like" growth appeared about the root of the nose. As a result of a knock some fifteen years ago (or more), the disease has spread slowly from that point until it has attained its present dimensions. The Lupus vulgaris now occupies the face in a mask-like symmetrical manner, which is well brought out in the figure. About the original focus there is a certain amount of scarring, but the greater part presents the apple-jelly granuloma *en nappe* in a very typical way; and this is well raised above the level of the skin, especially in the region of the chin and mouth, where the growth terminates in a definite border. The end of the nose is occupied by a large adherent crust. Four weeks previously to her being first seen at the West London Hospital a "little head" made its appearance just above the left orbit, and rapidly enlarged. It is flatly hemispherical, raised more than ½ in. above the level of the skin, and measures 2 in. in diameter. The patient has not had any previous X-ray treatment. The growth has been removed by Mr. Souttar, and a flap brought down to cover in the gap.

The case is shown (1) on account of the unusually high degree of the exuberance of the Lupus vulgaris growth, and (2) on account of the epitheliomatous complication.

I showed a photograph of a case of epithelioma in Lupus vulgaris under the care of the late Radcliffe-Crocker in 1890,* that is, before the days of the X-rays. The growth in that case was very like the present one, but it had taken three months to grow; whereas, if the present patient's account can be quite trusted, her epithelioma has only taken one month. I hope to report on sections later on.

* *See* also Radcliffe-Crocker's *Atlas*, Plate LX.

Dr. MacLeod: Has the patient had treatment by means of the X-rays which may have been responsible for the epithelioma? I have reported a case of this nature in the *British Journal of Dermatology* in 1906. The occurrence of epithelioma in old-standing lupus, which was occasionally met with before the introduction of the X-rays, seems to me to have become more frequent since their employment. To Dr. Heath's types of lesions which may develop on lupus tissue, I would add a fourth which I have met with in one or two instances in the scar tissue of healed lupus—namely, red angiomatous patches, irregular in shape, level with the surface or slightly raised. I wish to raise a point with regard to the treatment of Lupus vulgaris by means of the X-rays. My experience has led me to doubt whether it is possible completely to eradicate the lupus tissue by the X-rays without producing a dangerous X-ray scar, and I have never seen a case in which it has been accomplished. Of course, I admit the utility of the X-rays in the healing up of ulceration in lupus patches, and I am accustomed so to employ them.

Dr. Graham Little: I should like to ask members what is their experience as to the malignancy of epitheliomata growing on lupus tissue. In the few cases which I have seen I have been struck with the comparative benignancy of the growth and the long periods of freedom which many patients have enjoyed after excision. I recall one such case in a patient who attended my department for at least ten years after removal of a growth, which had appeared on an old lupus, and was demonstrated to be epitheliomatous. During that period there was no recurrence.

Dr. Pringle: Has the exhibitor any theory as to what was the starting point or the determining factor in the ætiology of this epithelioma? And I would like to ask the Section generally if they have any views as to the particular tissues from which such epitheliomata spring. Some years ago * I published a case of multiple epitheliomata arising from Lupus erythematosus; the case was a severe one, as I know of thirteen tumours being removed. In that case the tumour seemed to develop from the cicatricial tissue which resulted from treatment: such tissue frequently forms spontaneously in Lupus vulgaris.

Dr. Douglas Heath: I think there are three kinds of tumours which arise on Lupus vulgaris. In the moist stage it is fairly common to get a pyogenic granuloma. At a later stage, in the more chronic cases—whether they have been treated by rays or not—a warty epithelioma seems the most common. Thirdly, there seems to be a more rare condition, of which I have recently had an instance—namely, a sarcoma developing on the scar tissue of Lupus vulgaris. This last bears on the point raised by Dr. Pringle as to the point of origin of the malignant growth. In my case, in a man with old lupus of the upper lip and nose, a tumour developed to the size of a large cherry. It was excised and the area treated with X-rays; but they did not check it, and the tumour continued to grow on the smooth scar surface. A surgeon removed the growth freely, taking out a piece of the entire thickness of the upper lip, and it proved to be sarcoma. It recurred. I took the man into hospital, and cross-fired the rapidly growing tumour with pure radium salt on each side, and the tumour shrunk up and fell off. Since then I have treated the base with radium, and all signs of the growth have dis-

* *Brit. Journ. Derm.*, 1900, xii, p. 1.

appeared. Four months after the treatment there was no recurrence. Radium treatment seems to do better for this class of case than anything else.

Dr. Dudley Corbett: I think it is hardly right to deduce from the cases mentioned by Dr. MacLeod that we should not use X-rays in the treatment of lupus, altogether apart from the debatable point as to whether an actual cure is ever effected by their means. I have seen cases such as Dr. MacLeod describes, and if one looks up the records one finds that the rays were given twice a week until a reaction supervened, when they were stopped, re-applied when it had subsided, and the process repeated for months or years. Nowadays, if one uses unscreened rays, no more than one pastille dose is given per month, whether the dose is divided or not, and they can only be given more frequently than this if albuminium filters are used, a method which seems to suit some cases. It is yet too early to judge from cases treated during the last two or three years as to whether telangiectasis will result, but my principle has been to avoid an erythematous reaction by suitable periods of rest, and then it is reasonable to suppose that there will be neither atrophy nor telangiectasis.

Dr. Dore: I agree with Dr. Dudley Corbett that the occurrence of telangiectases and atrophy of the scar in cases of lupus treated with X-rays depends upon the amount of inflammatory reaction set up by them. I have treated a good many cases over periods of several years without this result ensuing. In my opinion X-rays are the best form of treatment for the majority of cases of Lupus vulgaris (Finsen light being reserved for small and superficial patches). I admit the difficulty of getting rid of residual nodules, and I think it is this that often leads to an increase of dosage, followed by erythema and dermatitis, and the subsequent development of disfiguring scars. With regard to epithelioma, I have seen it in several instances in which X-rays had not been employed, and I think it is important to remember that most of the cases of lupus, when they are brought up, have already tried many methods of treatment, and that an epithelioma is more prone to develop upon damaged tissues.

The President: I think one of the most important points we can consider with regard to the treatment of these cases is that which Dr. Dore referred to—namely, the influence of previous remedies. That will explain some of our failures and disappointments when we apply remedies which otherwise we believe to be good. Dr. Corbett said the moderate use of X-rays seems to be the most promising form of treatment, and I think many of the ill-effects we have seen are due to excessive application or to a misunderstanding on the part of those who administer the rays, or, possibly, an insufficient knowledge of the methods of application.

Dr. Pernet (in reply): The Radcliffe-Crocker case, of which I have shown a photograph, was observed before the days of X-rays. I am quite aware that epithelioma may complicate Lupus vulgaris that has not been X-rayed; nevertheless, I think that there is some ground for the caution expressed by Dr. Norman Walker. It is not wise to overdo the X-raying, as is sometimes done in a routine way by unqualified radiographers. Not long ago I saw an epithelioma (of two months' duration) with strong hard border in the centre of the cheek of an old lady, aged 75 years, who had had Lupus vulgaris from the age of three. The whole of the left cheek was scarred. She had not had the X-rays, but galvano-cautery and some radium exposures. She had been under the care of Dr. Dubois-Havenith, of Brussels, for some twenty years.

Dr. E. G. Graham Little showed a case of *Granuloma annulare*. The patient is a girl, aged 10 years, one of three children. The distribution and type of the eruption bear a striking resemblance to the eruption described in the second of Dr. Colcott Fox's cases of ringed eruption.* Two forms of lesion are present. One, the earlier stage of the second, is a deep-seated nodule, the skin over which is reddened and the average size of which is that of a pea. The other lesion, which in most cases is described as having passed through the nodular stage, is a circular, raised, vividly pink patch, varying in size from that of a sixpence to that of a shilling, persisting *in statu quo* for several months, and giving rise to no subjective symptoms whatever, so that the child is unconscious of their presence except where she can see them. With the lapse of time the colour is apt to fade and the patch to flatten down somewhat. The lesion is nummular rather than circinate, that is, the centre has not involuted—there is not the granular rim which is so typical of Granuloma annulare.

The number of lesions is unusually numerous. In Fox's case there were fifteen separate lesions, and that was an unusually extensive case. This number is exceeded here. The detailed distribution is as follows: The earliest lesions, and also now the largest, are four nummular patches, close together but quite discrete, on the skin covering the left calf. These patches are the size of a shilling. The sequence of the other lesions was not remembered. Left buttock: A single recent nodule slightly reddened. Left side: There are three nodules close together on the front of the upper third of the left thigh; there is one nummular patch on the inside of the left knee; there are two nummular patches on the outer and upper third of the left leg; there are two ringed patches on the middle of the posterior surface of the left thigh, and four patches over the calf. Right side: There are three nummular patches, as mentioned above, on the middle of the anterior surface of the right leg; there are four small nummular patches close together on the outer and middle third of the right leg; there is one nummular patch on the middle of the posterior surface of the right thigh, and one nummular patch over the right calf. There are thus about twenty-five separate lesions scattered on the limbs below the level of the pelvis. The onset dates from six months ago. Fresh lesions are still appearing.

* *Brit. Journ. Derm.*, 1896.

One maternal uncle died of phthisis, aged 17 years, and one brother of the patient, aged 9 years, is at present under treatment at the Tuberculosis Dispensary for tubercle of the lung. The child herself has been examined by my colleague, Mr. Langmead, who reports that there is no evidence of tuberculosis or other constitutional illness.

I believe the case corresponds with the type of disease described by Crocker and Campbell Williams under the name "Erythema elevatum diutinum," which I included in the generic group of Granuloma annulare in a survey of the subject in 1908. I should like to ask some of the senior members present who had opportunities of seeing the original cases reported by Crocker whether, in their opinion, I am correct in regarding this case as of that nature. I admit that the distribution of Crocker's cases was somewhat different. It is obvious from mere inspection that the title "Erythema elevatum diutinum" admirably describes the actual appearances in this patient, for the lesion is a fairly homogeneously pink elevation without the granular white ridge made up of separate granular nodules surrounding a depressed centre, which is the characteristic aspect in the great majority of instances of cases described as Granuloma annulare. The strong family history of tuberculosis lends countenance to the view I expressed in 1908, that tuberculous associations were somewhat suggestively frequent in this disease.

Dr. Pringle: I think that if anything could prove that there is no hard and fast line between Erythema elevatum diutinum and Granuloma annulare, this is a case in point. In his observations Dr. Little has practically admitted my point, because he has shown that these characteristics are present which are really so typical of the old Erythema elevatum diutinum, although not exactly of the kind of case which Dr. Radcliffe-Crocker described. That was a very much harder lesion and in a different position. But, on the whole, this lesion corresponds far more to the ordinary type of Erythema diutinum, and, I think, shows there is no hard and fast borderline, either pathological or clinical, to be drawn between the two conditions. My impression is that the condition in this child will disappear spontaneously; it is my experience of similar cases, though I have not seen a large number of them. The disappearance of the lesions is probably hastened by mild X-ray treatment.

Dr. Gray: Mild X-ray treatment also seems to prevent the recurrence of the condition. I remember the case of a man who had typical Granuloma annulare lesions on both hands. We did a biopsy, and tied one hand up afterwards, and found that the other lesions on that had disappeared under the bandage. The patches on the other hand were treated with X-rays, with success, and these had not recurred when I saw the patient some months after, but those on the bandaged hand had done so.

Dr. Dore: Is Dr. Little familiar with this condition affecting the face? Last week I saw a soldier who had a circular lesion, the size of a five-shilling piece, of six months' duration, near the right eye, and a nodule lower down on the cheek, which was not ringed and looked like a syphilide. The circinate patch had a semi-cartilaginous edge, and, the Wassermann reaction being negative, I have come to the conclusion that the case is one of Granuloma annulare.

The President: I would ask Dr. Graham Little to include the ear when speaking of the face. A case of great interest was published by Dr. Chippenham in the *Dermatological Journal* of 1911, in which the ears were involved. I have myself seen two cases in which the ears were implicated.

Dr. Graham Little (*in reply*): As regards the duration of the lesions, I saw a case which interested me greatly in the person of the small daughter, aged 8 years, of a medical man, who had contracted the disease in India, and had had persistent lesions for at least twelve months before I saw her. These were also very numerous, with the same distribution as in this case, but were of the more usual granular white-ridged type. They disappeared completely under short exposures to freezing with carbon dioxide, and had not recurred a year after. But lesions may disappear almost spontaneously, as I found in one of my early cases, in which a number of typical lesions completely vanished, apparently as a result of covering the area on which they were situated with a dressing rendered necessary by a biopsy of a single nodule in the same neighbourhood. As to the distribution on the ear, I have not seen this, but in a case recorded by Dr. Grover Wende, who was good enough to send me an excellent photograph and a section from the skin, there were numerous lesions on the side of the face, the neck, and, if I am not mistaken, on the cheeks. I believe the histology to be sufficiently characteristic to allow of a diagnosis being made from inspection of a section of affected skin.

Dr. Alfred Eddowes showed a case of *folliclis* (*papulo-necrotic tuberculide*). The patient, a female, aged 21 years, married, is a music-hall artist. Her general health has been excellent.

Family history: Her father, who was a very strong, healthy man until a few months ago, died after a short illness of some disease which affected his mind. The rest of the family enjoy excellent health.

She took two bottles of a blood mixture five months ago. The skin eruption has existed for about a year and a half, and has gradually spread from the arms and thighs to the trunk. It has the typical appearance of the nodular cutaneous tuberculide, "folliclis." The cervical glands are greatly enlarged on both sides of the neck. The patient says they have been like that at any rate since she was aged 10 years, and have never at any time caused discomfort.

The blood examination, made by Dr. Edward Back, shows: Total red cells, 3,000,000; hæmoglobin, 75 per cent.; colour index, 0·95. The red cells show slight vacuolation and poikilocytosis. The average size is normal. Total white cells, 11,000. Differential count: Small

lymphocytes, 47 per cent.; polymorpho-neutrophiles, 52 per cent. polymorpho-oxyphiles, 1 per cent. Blood test for Wassermann reaction: The reaction is fully positive.

The blood condition would be consistent with either chronic tuberculosis or Hodgkin's disease. May we exclude the latter? If so, how do we account for the fully positive Wassermann reaction? So far—and the patient was carefully examined a week ago—there has not been found any roseola, any enlargement of axillary glands, or of glands other than those already described. There has been no headache nor even a suspicion of sore throat or mouth rash. I have never before met with or read of such a combination of conditions.

Dr. PRINGLE: I think there will be a consensus of opinion that Dr. Eddowes's diagnosis is correct: I agree with it entirely. But I cannot help expressing the hope that he and the rest of us will drop this unfortunate term "folliclis." It is unnecessary, it is extremely inaccurate; and we now have the expressive term "papulo-necrotic tuberculide" to take its place, so that I think "folliclis," like "acnitis," may well be consigned to oblivion. The other observation I would make is one of caution in applying von Pirquet's test to cases such as these. Only lately, in my ward at the Middlesex Hospital, in a case somewhat similar but rather more acute, the von Pirquet test, carried out in the usual way, was followed by a most violent reaction and an erysipelatous condition, which caused considerable alarm for some days. I do not think Dr. Eddowes has used the test in his case, and if that be so I congratulate him on his wisdom.

The PRESIDENT: I endorse the remarks of Dr. Pringle. At the moment I cannot explain the positive Wassermann result in this case, unless it occurs from a source apart from that we are considering. The question is whether the result of one Wassermann test should be accepted in circumstances like this. Personally, I much doubt it. My experience points to the need of confirmatory tests, and preferably by the original technique. I agree with Dr. Eddowes's diagnosis. It is a rare type of case, and we shall be glad to learn the later course of it, with the results of treatment.

Dr. EDDOWES (in reply): I had a definite Wassermann "fully positive" report in the case, but I trusted rather to clinical appearances and had not regarded the case as syphilitic, as I have not seen any signs or symptoms, such as a roseola or a mucous patch in the mouth, or heard of her suffering from headaches. In the belief that the eruption is a tuberculide, I am treating it locally with antiseptics, and I hope to see benefit from a course of arsenic, which, I think, will do her more good than iron. Mr. McDonagh pointed out to me that the patient has some nasal trouble, which I had not noticed. That shall be investigated. I did not suggest taking one of the nodules for examination or excising a gland, as I think that course would have resulted in the patient disappearing from our view.

CURRENT LITERATURE.

NOTES ON CERTAIN INSECTICIDES. Aldo Castellani and Thomas W. Jackson. (*Journ. Trop. Med. and Hyg.*, 1915, xviii, p. 253.)

In this note the results of certain experiments to test the efficacy of substances used as insecticides are given. These were carried out in Serbia, and were suggested by the epidemics of typhus and relapsing fever, which were spread by lice. The technique was as follows: Small tin boxes with loose-fitting lids were used; in these boxes were placed the substances to be tested and living lice or bed-bugs. In the case of fleas, Petri dishes were employed. The insects were inspected every few minutes, and the degree of activity or death of the insect was noted with the time of exposure; the experiments were carefully controlled by placing insects in captivity in boxes or glass dishes without exposing them to the insecticide. The following conclusions were arrived at:

(1) In regard to solid and liquid insecticides the substances found to be deleterious to body lice in their order of efficacy were as follows: Kerosene oil, vaseline, guaiacol, anise preparations, iodoform, lysol, cyllin, carbolic acid solutions, naphthaline, and camphor. Of these kerosene oil was the most powerful insecticide, and caused instantaneous death of the lice, its chief disadvantage being its objectionable odour, which interfered with its utility on the skins of affected people. It was specially useful for destroying vermin in houses, furniture, etc.

(2) Substances which are powerful licecides may have very little or no action on bed-bugs and *vice versâ*. For instance, iodoform, which kills lice within ten or fifteen minutes, has practically no deleterious action on bed-bugs, which may live for more than twenty-four hours when exposed to it. It has also very little effect on fleas. Pyrethrum has a much more powerful action on bed-bugs than on lice.

(3) For use against lice on a larger scale, as among troops and prisoners, the best insecticide powder was naphthaline. It was useful also in stored blankets and clothing.

(4) For the better class of patients a menthol powder was preferred to naphthaline in most cases, as its odour was preferable and it was also repellant to mosquitoes. J. M. H. M.

RINGWORM OF THE SCALP IN CHICAGO: A BACTERIOLOGICAL STUDY OF ONE HUNDRED CASES. H. Barker Beeson. (*Journ. Cut. Dis.*, 1915, xxxiii, p. 731.)

An analysis of a hundred cases of ringworm of the scalp in Chicago showed that 89 per cent. of the cases were due to microsporon—all except one being caused by the *Microsporon audouini*, the only exception being due to the *M. velveticum*. Endothrix fungi were responsible for 7 per cent., 4 being due to *T. acuminatum*, 2 to *T. violaceum*, and 1 to a crateriform-growing endothrix which appeared to be an undescribed variety. Fungi of the ectothrix type caused 4 per cent., and of these 1 resembled the *T. rosaceum*, another corresponded to the *T. asteroides*, while the remaining 2 were not classified. These results differed markedly from Sabouraud's series in Paris, in which there were only 40 per cent. due to microsporons, 58 per cent. endothrix, and 2 per cent. ectothrix. The writer found that the so-called "black-dot" ringworm was due in nearly all cases to either *T. acuminatum* or *violaceum*. J. M. H. M.

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